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THE FAVORABLE MODIFICATION OF UNDESIRABLE SYMPTOMS IN THE INCURABLE INSANE.*

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Insanity is unlike any other group of diseases in the requisites for its treatment. The mind is the regulator of conduct, and mental disorder means conduct irregularity. It means perversion from reasonable and expected actions and the occurrence of irregular, irrational, and more or less uncontrollable activity.

The treatment of insanity can not stop with the discovery of the physical lesion, which is the disease in fact, and the proper application of remedial agents to it, but must have in mind, and must attempt to correct, the disorder in conduct that is a large part of its symptomatology. In by far the larger number of cases this conduct disturbance leads to injury, in greater or less degree, of the patient, and necessitates, for this reason, the intervention of other control than the volition of the individual affected. Experience has demonstrated that in private families this control can seldom be advantageously provided. We need not stop here to discuss the reasons for this. Whatever theories may be advanced, practice will determine that individual private treatment for the general classes of the insane, acute or chronic, is neither practicable nor advantageous. The feature of the disease that makes this true is the lesion of judgment and the defect in reasoning power, which prevents the individual from being able to judge correctly as to his own best interests. The restraint of conduct is, therefore, in most instances, a forcible one, and in antagonism to the wishes of the patient. Its enforcement must, more or less, irritate him and put him in antagonism to the agency enforcing the control. Where this is individual entirely, as it must be in a private home it is

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decidedly more irritating than in an institution where architectural and institution arrangement largely supplant the individual control of the home. Complete change in environment, such as institution treatment affords, is often a wonderful regulator of conduct. The surprise or shock from the great contrast with home life takes the mental activity, the mainspring of action, out of the morbid channel in which it has run at home, starts up new lines and fills up the old ruts.

It must be remembered that in dealing with the insane we do not deal with them as wholly irrational and unreasonable beings. We treat them as victims of a disease which, it is true, perverts and impairs their reason and judgment, but we treat them through the remnant of reason and judgment that they still possess.

The whole aim of hospital treatment of the insane is to build up on the remnant, to encourage everything tending toward order and coherence in conduct and thought, and to enlarge upon whatever of sane conduct and thought may still remain. The primary object is cure, complete cure and restoration to home and society, wherever this is possible. Unfortunately, alas, this is in more than the majority of cases an impossibility. The physical conditions which develop or result from the mental disturbance are of such nature as to be irremovable. It is not strange that this should be so. Nervous tissue is extremely susceptible to forms of degeneration and to destructive lesions that can neither be removed nor stayed in their progress. The medical officers of insane hospitals have been criticised by neurologists in high places for the paucity of the results of hospital treatment of the insane. Can they show any more favorable results in their treatment of other diseases of nervous tissue? If conditions should require in them, as it does in our patients, that their patients should be accumulated in hospitals, and there kept confined until cure or death should liberate them, would not the percentage of cures cut almost, if not quite, as sorry a figure? The causes that develop mental disorder, as well as those that produce the ataxias, the muscular atrophies, the degenerations, and the inflammations are such, and they so operate, that in many instances, even at the time when the patient is first placed under treatment, cure is an impossibility.

The province of the hospital in such cases is to make as much out of the defective and damaged organism as its physical elements will permit. Supervision and the restraint of hospital life will be necessary while life lasts, but the home it affords can be brought

within the comprehension and capacity of the patient, and the patient can be so adapted to it as to greatly enlarge the capacity for enjoyment, and greatly diminish the discomforts that result from the disease.

It is this feature of hospital treatment that we desire to discuss particularly in this paper. It is a part of the treatment whose importance is not always sufficiently considered. It may be questioned whether it is not fully equal in importance with the curative treatment of the more favorable cases. For more than one-half of the whole number it is as far as our assistance can go, and for them and their interests our neglect of a careful study of this part of our work is fraught with most serious consequences.

When the curative stage is passed, or when the conditions upon which the mind disorder depends will not admit of removal, we are not justified in assuming that our active intervention is no longer required. We are not simply to provide for these the necessities of life. An individual study of each case is still required. There is always the possibility of improvement, and no possibility of determining beforehand how far this improvement may be carried. Every insane act removed, and every sane act substituted, contributes to the comfort and capacity for enjoyment of the patient. The brain may be permanently damaged, the physical disease may be a permanent degeneration, and the mental functions may be permanently impaired, but in spite of this we may remove individual insane propensities, and by proper regulation may control individual insane acts that interfere with the enjoyment or the comfortable care of the patient, and by properly calling into use sufficiently influential motives, we may replace them with more reasonable and less injurious forms of action.

No one can comprehend the full scope of the possibilities for good in hospital care of the insane, arising from this, unless he has personally studied, or at least observed carefully, the change that has been taking place in institution treatment of the insane during the past fifteen years.

It is often stated that the types of mental disorder are changing, and it is possible that the advance of civilization does produce some change. I can readily see how it may have such an influence, and I believe it does, but the subject is not exhausted when this concession is made. Anyone who can look back over a hospital experience of ten or fifteen years with the insane, can recall facts under his own observation that demonstrate the certainty in the

results that follow attempts to favorably modify conduct in the insane. Patients come to us with just as troublesome propensities as they did then, but a visit through the hospital now creates a vastly different impression from that it imparted then.

Noise, profanity, vulgarity, the exposure of person, destructiveness, and untidiness are not necessarily controlling influences in the insane. "Man is born to evil as the sparks fly upward," 'tis true, and this evil propensity is not at all changed in the state of mental disease, but the evil propensity may be counteracted in one as well as the other. When it can not be eradicated, it may be greatly modified.

Motive is influential with the insane as well as with the sane, and in addition to more or less rational motive, we have in them the powerful influence of habit. Habit is strong in the sane, but in the insane its control is much greater. This is because the insane are more automatic, more machine-like, and less independent of external influences. The tendency to repeat activities is in them more pronounced. Illustrations can be multiplied daily.

They extend to the most trivial acts. A patient entering a ward or a cottage for the first time, by accident takes a certain seat; he is likely to take the same seat the next time he enters, and in numerous instances one can tell with almost absolute certainty just where the patient may be found at any hour of the day. What is true of a little daily activity such as this, is equally true of those more serious and annoying propensities of the insane that have made asylums in former years scenes of constant noise and confusion. The amount of seclusion, and the extent to which mechanical appliances are used in the care of the insane, depend almost entirely on the varying extent to which troublesome habits are permitted to develop or continue.

Patients were formerly placed in solitary confinement by the score, and in my own experience I have known individuals to be continuously secluded year after year. Now I do not hesitate to assert that continuous seclusion is never profitable, and in any well-regulated hospital of 1,000 patients the total amount ought not to exceed an hour or two daily. The same fact is true of mechanical restraint. There is now scarcely any contention over this formerly troublesome question. Very little is used and for very short periods. More enlightened treatment of individual symptoms has removed the necessity for it, and experience demonstrates that by far the larger part of the former use of it was due simply to the

perpetuation of the habit of its use, and a mistaken idea of the requirements for the safety of the patient.

Many patients were formerly never taken outdoors unless in a high inclosure. Now such protections are, by practical tests, demonstrated to be worse than useless, and every able-bodied patient enjoys daily the outdoor air and exercise under the same supervision that is over him within the ward or cottage. The more decorous deportment, the less destructive propensities, and the greatly improved conversation give evidence of the beneficial effect of the change.

Methodical and useful employment is now utilized as a means of beneficial control to an extent that was formerly thought impossible. From 60 to 75 per cent of the general classes can be furnished some form of useful employment to their decided advantage. It contributes to quiet restlessness, and to induce healthy sleep. It is seldom that a half-dozen restless patients can be heard in passing through the sleeping apartments of an institution of 1,000 patients at any hour of the night, and the night-watch reports bear evidence of the great improvement of recent years in this respect. Still more recently experiments have been made of taking large numbers of patient to points at greater or less distance from the institution for a day's outing, and the effect on the patients so treated fully justifies the trial. It has been demonstrated that such outings are entirely safe. From 40 to 60 per cent, or even more, of the patients, in any general hospital for the insane, can be safely given such recreation and with wonderfully beneficial effect.

It is not strange that it should be so. It is a complete break in the monotony of institution life. The railroad ride, or boat ride, the picnic dinner, the fishing, the games, the platform dance, with its accompaniments of peanuts, fruits, candies, and cigars, all give change, pleasure, and more or less relief from introspective cares. The country with its green grass and quiet shade takes away for a time thought of hospital and morbid delusion. Our thoughts are largely influenced by environment. New scenes bring out new mental activities, and, in so far as this is true, the old lines of thought are displaced. They are superseded, and if this is done by substituting more rational and more consistent ideas, just so far will the well-being of the insane be enhanced. Outdoor air, the country, change of scene, freedom from the asylum environment, the ride on the cars or boat, the luncheon, the games, all give rise to thoughts — thoughts that must of necessity differ from those that are suggested in the asylum ward. They can scarcely be so morbid,

and almost of necessity are more healthful and more pleasing. Such outings, too, are productive of good in the better disposition that they induce in the patients toward the management.

Much of the noise and confusion of the hospital for the insane is due to the irritable mental state of patients who have real or fancied grievances against the powers that control and restrain them. Everything that aggravates this feeling increases the irritation and the turbulent conduct that is its outgrowth. Everything that contributes to a better feeling between patient and institution also contributes to quiet and order.

So much for the effect of some of the more conspicuous incidents in the life of the insane, but these do not alone possess the power to modify their actions and to give shape to their diseased functioning. With the chronic forms of insanity in particular, and because of their greater control by habit and their prolonged institution stay, I am persuaded that there is scarcely anything in their environment that may not be made effective for good or evil in shaping their activities. The quality and quantity of the diet has much to do with their contentment and their consequent deportment. An under-fed or an ill-fed patient is never a cheerful one. So, also, is comfortable and attractive clothing influential in shaping the mental activities of the insane. I have seen, many times, destructive patients cease the habit of picking and tearing to pieces articles of clothing when given new and attractive outfits. Untidy patients are often made neater and more careful by this means. You will be surprised, oftentimes, to see what capacity still remains to appreciate such things, when the mind seems almost entirely wrecked. Taste and tidiness in the decoration of the ward is also remarkable in the influence it exerts over the actions of the inmates. Every year of my experience confirms this. Pleasantly tinted walls, neat floors, tasty curtains at the windows, pleasing and comfortable furniture, bright rugs, all produce a marvelous effect.

Within the past year I have seen wards almost transformed in the character of the inmates, without any change in their personnel, by such means. It is remarkable, too, what a regard can be developed in them for such improvements in their surroundings. In my experience it seems as possible to add all these attractive surroundings to the wards of the more disturbed classes as to the more quiet and more rational. Window-curtains, flowering plants, upholstered furniture, rugs, tasty walls and floors are as much appreciated by this class as by any other, and we have found no trouble

in introducing them in every portion of the institution. I have seen the revolution produced in the same patients under my own eyes, and with no other factors at work.

With all these indirect means, we must not lose sight of the more direct ones. Patients should not be permitted to run riot and to indulge, *ad libitum*, their disordered propensities. Intelligent supervision and guidance are always necessary.

Firmness and good judgment will modify greatly untoward forms of mind disorder. Here is where the value of an attendant is tested. One will succeed where another will fail, and it is wonderful to see how tact and a cool head will bring order out of chaos. With one attendant a ward is all confusion and excitement; with another it is quiet and orderly. Sometimes a certain amount of force is necessary — not rude abuse and brutality, but a compulsion by physical force to do certain things or to prevent others being done. We should not be affrighted by this statement. Wanton liberty of action in the insane is as prejudicial to their interests in the little events of their daily asylum life as it would be were they given freedom from asylum restraint entirely. Go about the outside of the asylum now, and the amount of noise to be heard from the windows is not to be compared with that you would have heard a decade past. Why? Because patients are not permitted to make such worse than useless disturbance.

The attendant takes them from the window, seats them or places them where the temptation to noise is less. It is so with every other unfavorable propensity. It was once supposed that a good many patients could not be kept clothed with any ordinary clothing. Some were said to be incorrigible in this respect, and to defy all attempts at keeping them dressed. Patience and perseverance, however, have demonstrated that there is no one among the classes of chronic insane who can not be finally induced to wear clothing of the ordinary styles of manufacture. Even in the matter of footwear, the most difficult to keep in order, I have seen from experience that not a single instance need be attended with failure. Without mechanical restraint, without constant or extended seclusion in any case, every patient can be kept neatly and comfortably clothed. Destructive tendencies toward ward furniture and decoration can also be greatly modified. The scratching of walls and picking of upholstered articles, the disturbance of window-curtains and rugs, the marking and mutilation of floors, by proper care and watchfulness can be almost entirely prevented.

Years since it has been demonstrated that uncleanness at night can be almost wholly prevented by proper night supervision, and now no well-regulated asylum has as much as 1 per cent of soiled beds. We might thus repeat indefinitely instances of favorable modification of symptoms of mind disorder in the chronic forms of the disease. Enough, perhaps, has been said to show the scope and magnitude of the work of caring for the insane. There is absolutely no limit to the field of operations; everything within and without the patient may be brought to bear upon the symptom group of his disease.

But, says my friend of the *materia medica* predilection, you have said nothing of the part which medicinal agents should play in this interesting transformation. Do you mean to say, as a physician, that these have no place in the treatment of these classes of the insane? By no means do we take this position. They do have their place, but we have purposely delayed this feature of the treatment, to indicate the relative position that, in our mind, it has to the other means of control which have been already enumerated. There is but one way in which medicinal agents are useful in the treatment of insanity, that is by removing diseased brain states. If there is impaired nutrition of the brain, from any cause, or increased blood pressure through congestion, or impoverished blood, or the retention of waste products, or the circulation of a poison, or reflex irritation, suitable medicinal agents, directed to their removal, are of much value. From this narration, however, it is evident that they have their chief value in acute insanity, where structural changes have not reached the degree of fixation that they attain in the more chronic form. In the chronic forms medicinal agents are to be used just as they would be used in non-insane states. Where there is evidence of physical disease, and the indication for certain medication, this indication should be met by proper treatment. It is rare, however, that in conditions of permanent structural change, any modification of mental symptoms can be induced by medicinal agents. Narcotics may induce sleep in the noisy, and motor depressants may contribute to quiet restlessness, but their routine and continuous use are unmitigated evils. To tide over emergencies, and to diminish brain waste in the stages of acute disease, they are most effective, but to regulate conduct, and to modify unfavorable propensities left in diseased tissues, after the subsidence of the active physical disorder, and when its effects alone remain, and are seen alone in perverted mental phenomena, their use requires the utmost caution.

The proper direction of motive, the right preponderance of desire, the physiological diversion of physical and mental action into healthy channels, are much more useful, and much safer methods of treatment. It may be urged, further, that this form of treatment is purely empirical, that it is the treatment of symptoms rather than of the pathological basis of the disease. To this charge we must plead guilty, yet this is not a very serious charge. Every agency used in the modification of disease must be measured at last by its degree of efficiency in removing the symptoms of disease. Whatever the theory of its physiological action, and whatever the results of physiological experiments, the test only comes when applied to the removal of symptoms, and by this is every medicinal remedy measured. The therapeutic value of most of the *materia medica* has been discovered by accident. Is it, too, very empirical to attempt to modify diseased states by regulating functional activity? Use certainly does modify structure. Repetition of action does lead to fixation of habit. Mental activity can be modified by substitution of activities, and these substitutions can be finally made organic, fixed in the tissue basis of the action.

It may be argued again that these details are unworthy of the attention of physicians and alienists; that we fail of our duty in giving our attention to them; that we do not cure any more than formerly, and that such discussions as this are unscientific, and belong to the non-professionals in our work. Surely no one can so regard them when carefully considering the whole subject of mind disease. We are free to concede that the proportion of cures is not increasing. I fear it is not likely that it will be greatly increased for many years. Civilization, with its increasing burdens and its complicated demands, bears most directly on nervous tissue. The complexity of this must increase *pari passu* with the greater variation in the demand upon it, and greater complexity means increased susceptibility to disorder.

It would seem, too, that these disorders assume more and more the form of organic degenerations and destructive lesions as civilization advances, such degenerations as have baffled remedial efforts in all tissues, whether nervous or otherwise, or connected with mental phenomena or not. I do not believe that failure in this respect, however, can be especially charged to want of enterprise and scientific research in alienists in greater degree than the same criticism can be made to any other forms of practice.

In all humility we are certainly conscious of many shortcomings,

but we must maintain that much of the patient, persevering study of mind disease that has been pursued in unostentatious ways and places has borne fruit that, although gathered and garnered by the few to whom it seemed of value, has been wholly overlooked by the world at large, and even by our brethren in other branches of our profession. Do they, however, stop their efforts when cure is no longer possible? Will anyone say that the amelioration of suffering is ever unscientific or unworthy of professional notice? Is not the enlargement of impaired capacity worthy of our intelligent investigation, even though we must fail of complete success? To my mind no work can be more worthy of our devotion than that which alleviates the inevitable, and mitigates the pangs of distress that no human effort can evade.

LABORATORY METHODS.*

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The object of this report is to interest the medical officers of hospitals for the insane in pathological work, for it is to them that the medical profession must look for progress in cerebral pathology. It is not probable that many of the States will provide a special pathologist for each hospital, though everyone with a population of over 600 could supply material enough to keep a man busy. A central laboratory for each State would be of limited value, because of necessity only accessible to that hospital at which it is located. It might be of great service as a place where assistant physicians could learn the necessary technique, but most of the actual work must be performed where the autopsy is done. Text-books on the subject of general pathology, and even those on cerebral pathology, give a great variety of methods, and it is extremely difficult for a physician in hospital practice to select those which will give good results without a special training in pathology, unless he wastes time and patience to sift out the many processes which are of little practical value. It, therefore, seems possible that it may be of service to physicians in other hospitals to describe those methods which have already proved of special value in the laboratory of the St. Lawrence State Hospital. The methods of preparing microscopical and gross specimens, which are most used at the present time, are, therefore, given in full, although most of them can be found in recent books. "The Microscopical Examination of the Human Brain," by Edwin Goodall, B. S. M. R. C. S., published by Balliere, Tindall & Cox, London, is a recent book of great value, as are the works of Bevan Lewis, Delafield and Prudden, Hamilton and Lee, to all of which the writer is indebted.

HARDENING.

It is, of course, impossible in this paper to discuss at length the many various methods of hardening brain tissue to prepare for section cutting. Hardening is accomplished either by means of chemical action or by cold great enough to freeze the tissues. Alcohol

* This paper forms a part of the current official report of the St. Lawrence State Hospital.

and solutions of the chrome salts are the most useful of the hardening fluids. The ordinary method of hardening in alcohol, or in alcohol and water, is of little value in work on the nervous system. It causes shrinkage of nerve cells, so that their structure is not clear, and it is not suitable for the stains needed for nerve fibers. Plate IV, Fig. 2, shows nerve cells of the cortex which have been hardened by alcohol and stained in borax-carmine, and a large space is seen about the cell, caused by its shrinkage. In Plate II, Fig. 2, where nerve cells are shown, prepared by the Bevan Lewis method, the spaces about them are hardly perceptible.

Alcohol can be used in the ordinary way, however, if one wishes to stain visceral organs, blood vessels, meninges, or tumors. Nissl hardens brain in absolute alcohol for only twenty-four hours, and by a special method of staining (described later) shows a structure of nerve cells not before seen; and it is possible that absolute alcohol may be found of value in hardening brain for other stains, but it has not been extensively used as yet. It is also possible to prevent somewhat the shrinkage of cells caused by alcohol by first fixing the specimen in corrosive sublimate, and then placing it in a weak solution of alcohol and gradually increasing the strength of the alcohol. The process in detail is as follows: Place pieces of brain in the following solution, which must be dissolved by the aid of heat: Corrosive sublimate, 7.5 grm.; salt solution (one-half per cent), 100 c. c. Leave them in the above for twenty-four hours, wash for twenty-four hours in running water and then place in 30 per cent alcohol. Leave in this for twenty-four hours, and then for the same length of time in a 70 per cent alcohol, and finally in absolute alcohol.

Bichromate of potash is much used for hardening the nerve structures, either alone or in the form of Müller's fluid.* It is of special value in preparing to stain nerve fibers by Weigert's method or its modifications, but is not of value if the nerve cells are to be studied except by the Golgi-Cajal method, which is described in full under special methods of staining. The chrome salts must be used to harden nerve tissue which is to be stained for fibers by any of the modifications of the Weigert method. The specimen may be placed immediately in a one-half per cent solution of bichromate of potash, which should be changed daily and gradually made stronger until a 4 per cent solution is used. This should then be changed every week for six or seven weeks, when the specimen

*Potassium bichromate, 2 parts; potassium sulphate, 1 part; water, 100 parts.

will be hard enough to cut. If it is necessary to keep it longer before cutting, it should be placed in a one-half per cent solution, to which a little camphor is added, as brain tissue becomes brittle or granular if left very long in a strong solution of bichromate of potash.

Müller's fluid may be used instead of the weak solution of bichromate of potash at the beginning. It should be changed at the end of three days, and in three days more a 2 per cent solution of bichromate of potash should be substituted for it; and, at the end of the second week a 4 per cent solution of bichromate of potash should be used and changed weekly until the specimen is properly hardened. If chrome-hardened specimens are to be used for other stains than Weigert's or its modifications, they may be put in alcohol for twenty-four hours before the weak solution of bichromate of potash is used, as hardening is more rapid and maceration is prevented; or alcohol may be used after the chrome salts, when the excess of chrome must first be removed by water. All the chrome solutions should be kept in the dark, as they are changed by the action of light.

SECTION CUTTING.

If the specimen is of firm tissue and well hardened it can be cut by a sliding microtome without infiltration with celloidin. A few drops of thick solution of celloidin (celloidin, 50 grm.; absolute alcohol, 75 c. c.; ether, 75 c. c.) are placed on a block of wood of suitable size, and the specimen is pressed down on it so that the celloidin surrounds it at the lower part. The celloidin is then allowed to harden for about fifteen minutes in the air, when the specimen is placed in alcohol, which hardens the celloidin in about half an hour, sufficiently to hold the specimen to the wood. Other substances, such as gum or gelatin, are often used instead of the celloidin, but none are more rapid or sure. If the tissue is not firm after hardening, either because of its normal structure or of disease, or if large sections are desired, it is best to infiltrate the specimen with celloidin. The specimen is dehydrated in absolute alcohol and allowed to stand for twenty-four hours in a mixture of equal parts of absolute alcohol and ether. If it has been hardened in chrome it should be first washed in water and then put in alcohol for twenty-four hours. It is then placed in a thin solution of celloidin (celloidin, 25 grm.; absolute alcohol, 75 grm.; ether, 75 grm.) and allowed to stand for four days, when it is transferred to the thick solution of celloidin mentioned above, where

it should remain for twenty-four hours. It is then placed in a pill box, or in a box made by winding a sheet of paper about a straight cork, which is filled with a thick celloidin solution. This should stand in the air for a period of time, varying from fifteen minutes to one hour, according to the size of the box, when it is placed in alcohol, where the celloidin becomes hard in twenty-four hours. If the section is small, it is necessary to have a piece of wood or cork under it, in order to fasten it in the clamp of the microtome. If the tissue is well hardened, or infiltrated with celloidin, the sections can be removed from the surface of the knife, which is kept wet with alcohol, by a stream of alcohol poured from a bottle or pipette; but, if the specimens are large or friable, it is sometimes necessary to immerse the whole microtome in alcohol. It is also a good plan in cutting large sections to have the microtome tipped up on a stand, so that the alcohol will run back from the edge and toward the "toe" of the knife. The sections can then be made to float off into a dish of alcohol held under the end of the knife. It is necessary to use alcohol freely to preserve sections of large size or of friable tissue by either plan, and a sharp knife is a most essential element to success in section cutting.

STAINING.

There are a great many stains in use at the present time, and each pathologist has his favorites, so that the text-books on the subject are bewildering in the extreme to one who is in search of certain results. The special methods of staining nerve cells which are of the greatest value are the Bevan Lewis, or fresh method, which requires anilin blue-black of English manufacture; Nissl's method, needing methelene-blau-patent B, and the Golgi-Cajal method of staining by nitrate of silver. For staining medullated nerve fibers Pal's modification of Weigert's method is extremely useful, but the original one is still much used. It is well to be familiar with a good stain for general work, to use for any tissues that do not require special methods, and for this purpose there is, perhaps, nothing better than double staining in hæmatoxylin and eosin. A reliable carmine stain, such as an alcoholic solution of borax-carmin, is useful, either as a single stain or to bring out nerve cells after staining the fibers by one of the special methods.

BEVAN LEWIS METHOD.

To get good results by this method, it is absolutely necessary to use a free-hand microtome, because the knife must be dry on the

under surface before cutting, and the section must be floated in water immediately after it is made. The knife should be hollow ground on both surfaces, and should be about six inches long, and should touch a flat surface throughout the entire length of both edge and back. It is extremely difficult to get good sections unless the knife does touch at all points, as it is then necessary to press the edge of the knife down hard against the glass table. This glass must be perfectly smooth, and kept clean and free from scratches, or the knife will become dull so rapidly that good sections can not be obtained. Considerable practice is necessary to cut well by this method, which is, of course, much more difficult than the manipulation of a sliding microtome. If ether is used by means of a hand spray, it is well to have an assistant to attend to the freezing while the operator cuts and fixes the sections, but one man can manage all the details, if he becomes expert enough to proceed rapidly. If a cylinder of oxygen is used for freezing, or a cylinder of compressed air to cause the ether spray, one person can easily manage the whole process. A small piece of cortex with pia mater attached (about one-third of an inch in each dimension) is removed as early as possible and placed on the drum of the freezing microtome, with the pia turned toward the operator. A drop of water is used to fasten the brain to the plate when frozen. The knife must be thoroughly wet, that is, it must retain water all over its upper surface. To get it to do this it may be repeatedly flooded with ether and plunged into water, but a better way is to make a cut in the white matter of brain before the knife is put into water.

When the specimen is properly frozen the knife is rapidly dried on its under surface by drawing it across a towel on the operator's knee, and a clean, steady cut is made by pushing the knife held firmly on the glass table nearly straight across the specimen. The section is then floated by immersing the knife in water, and the operation is repeated until several sections are cut. These sections are then taken from the water on slides which have been thoroughly cleaned and kept in water. The slides should be held at right angles to the floating specimen and drawn straight up when they touch, and the section will then lie flat on the slide. It is then fixed by a one-quarter per cent aqueous solution of osmic acid. A few drops of the acid solution are allowed to flow from a pipette first under the section, and then a few more are dropped on the section, and after about one minute the slide is placed in water. If the fixation is of proper amount the section sinks in the water and

there is no marked change in its color from the effect of the acid, but if the osmic acid has not acted on all parts of the section it floats, and if too long it turns dark. The sections are lifted from the water on slides or transferred to a dish and stained for about one hour in a one-quarter per cent aqueous solution of anilin blue-black. They are then washed in water and then in distilled water. If they are stained too deeply the excess of stain may be removed by a weak solution of acetic acid. They are then lifted on slides (care being taken that each section is flat) and allowed to dry. When thoroughly dried they are mounted in balsam.

This method shows nerve cells which are not shrunken as are those hardened in alcohol by the older methods, as is shown by the illustration in Plates II and IV, Figs. 2 and 2. It is of great value in the study of the cell layers in normal brains and of the changes in nerve and connective tissue cells in disease, especially in general paralysis of the insane, epilepsy, alcoholism, and terminal dementia. Fig. 1, Plate II, shows vacuolation of the nuclei of nerve cells in a case of terminal dementia in which the original cause of insanity was probably the abuse of alcohol. Fig. 2, Plate II, shows fuscous degeneration in a case of senile dementia with marked atrophy of the convolutions, and Fig. 3, Plate III, shows scavenger cells, or, as they are sometimes called, Dieter's cells.

NISSL'S METHOD.

This is a recent and valuable addition to the special methods of staining nerve cells, as the structure of the cell is shown more clearly than by any other method, and it is claimed that changes occur which are not shown by any other method of staining. The method is as follows: Small pieces of cortex are hardened for twenty-four hours in absolute alcohol from which all the water is abstracted by sulphate of copper, from which the water of crystallization has been driven by heat. The specimens are then fixed on blocks of wood by celloidin, without being imbedded, and cut into alcohol by a sliding microtome. The sections are then transferred to a one-half per cent aqueous solution of methylene-blue-patent-B in a watch-glass. According to the original method they are then slowly heated over a flame until bubbles begin to form, but it has been found that if the stain is heated until it boils, thin sections tend to roll up and fold so that many of them are ruined. This tendency is lessened if the stain is slowly heated only until vapor comes off in considerable quantity, allowed to stand for five minutes

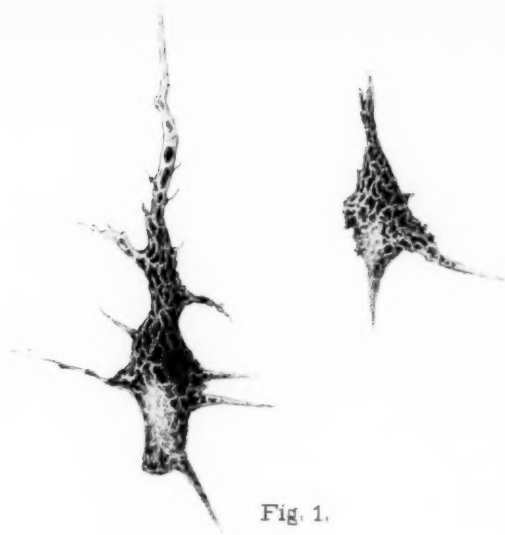


Fig. 1.

x326. Degeneration of large cells in motor area
of cortex. Nissl's method.

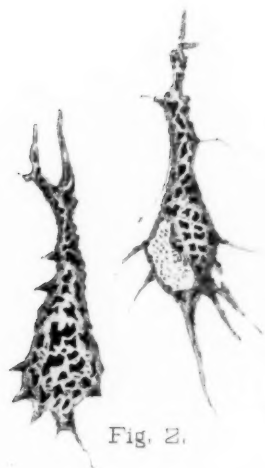


Fig. 2.

x240. Degeneration of large cells in motor area;
fresh examination; Nissl's method modified.

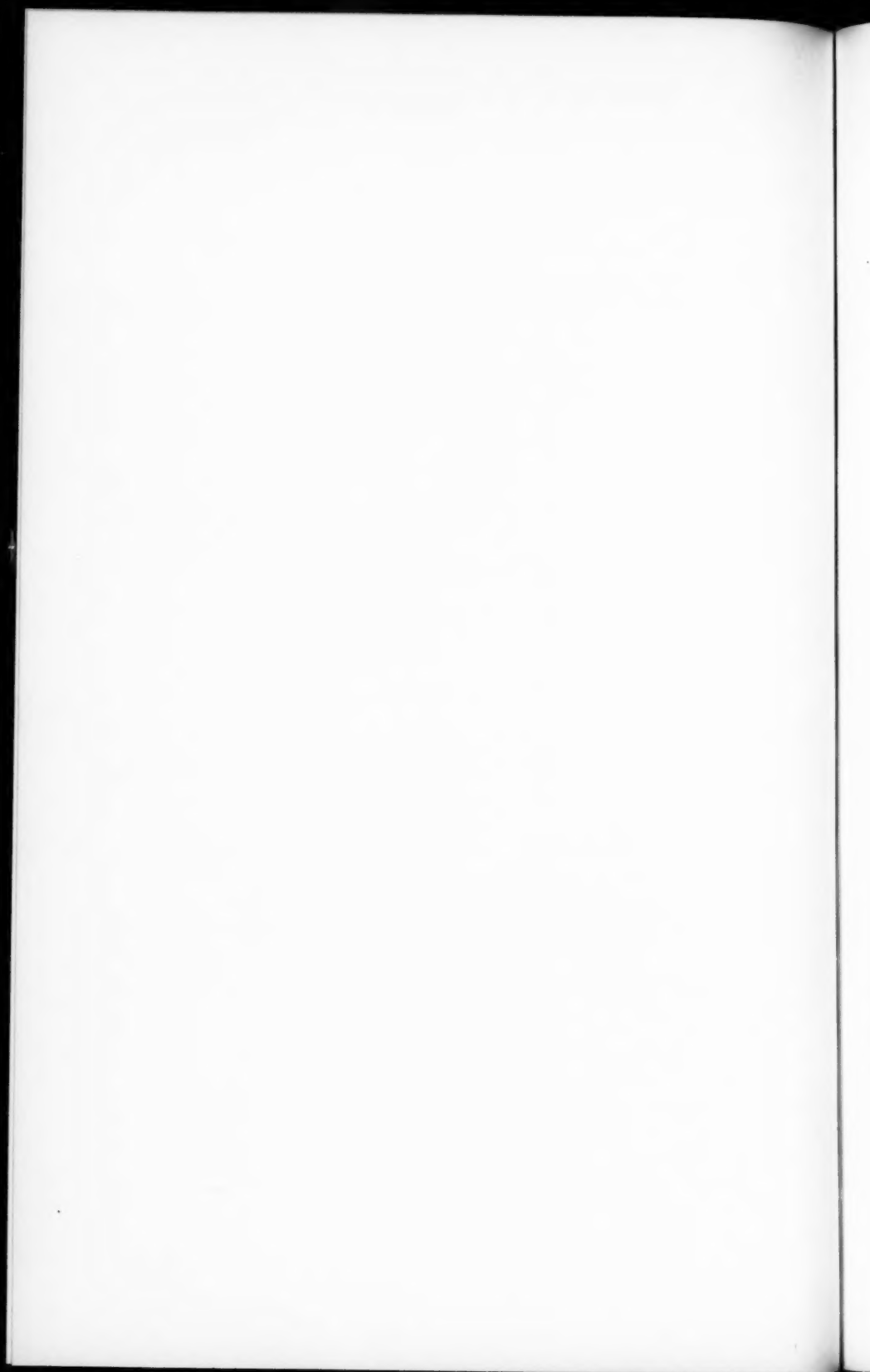




Fig. 1.

x240. Vacuolation of nuclei; alcoholic dementia.
Bevan Lewis' method.

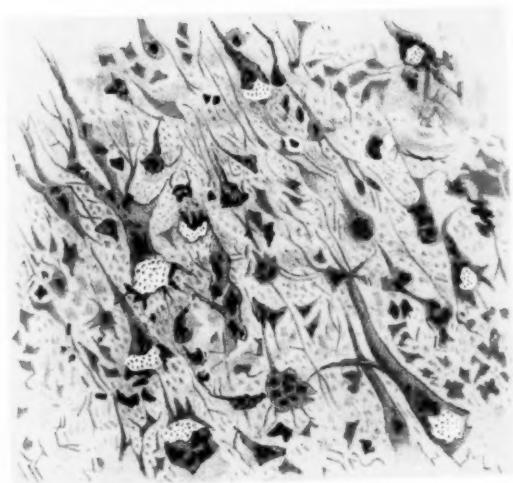


Fig. 2.

x240 Fuscous degeneration of cortical cells.
Bevan Lewis' method.

PLATE II.

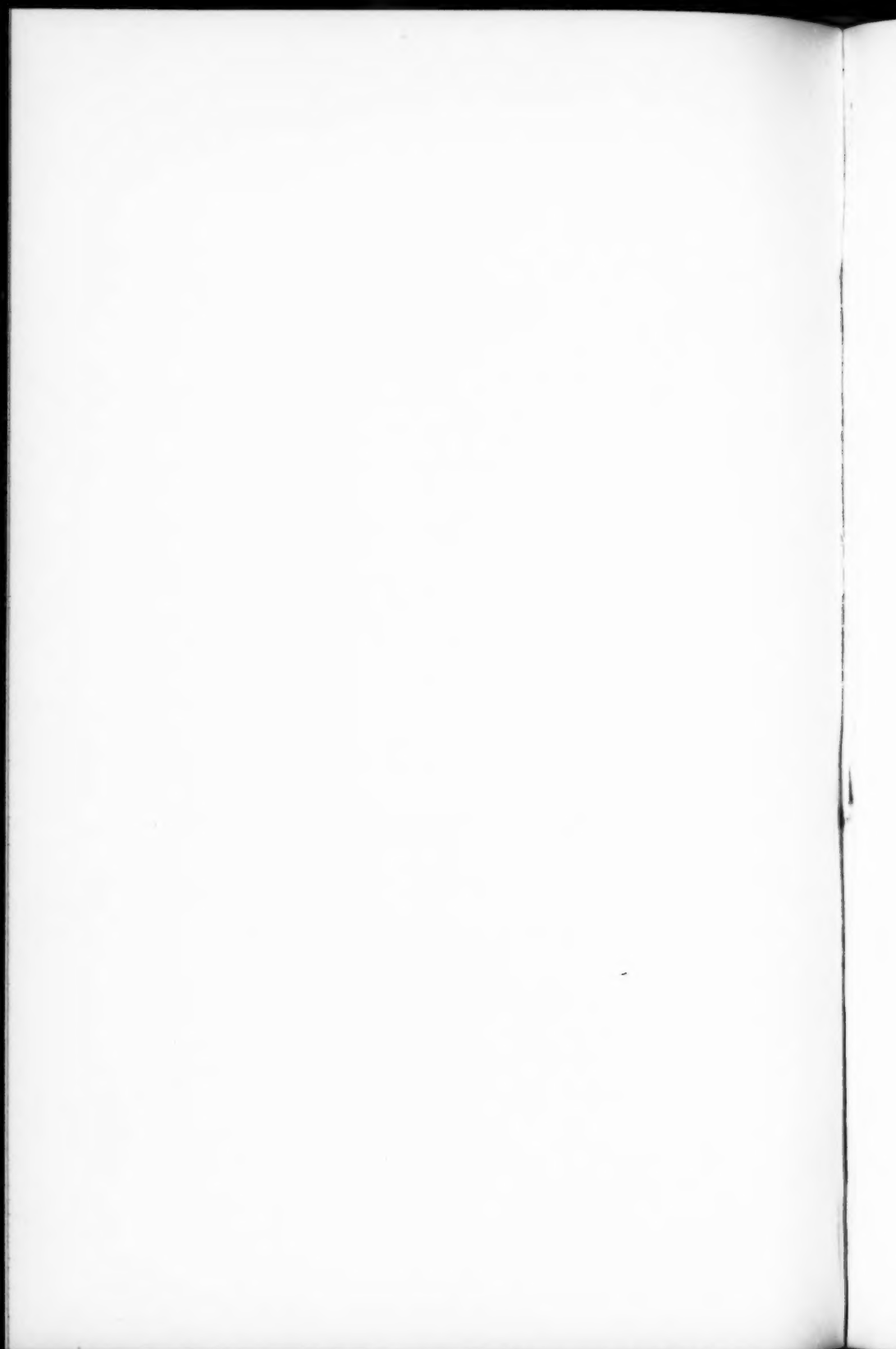
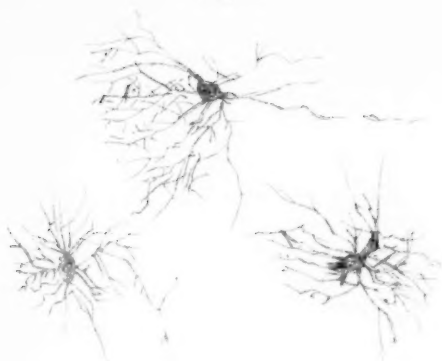


Fig. 1.



Scavenger cells; Chronic Mania.
Golgi-Cajal method. $\times 480$.

Fig. 2.



Degeneration of posterior columns
in locomotor ataxia. $\times 240$.

Fig. 3.



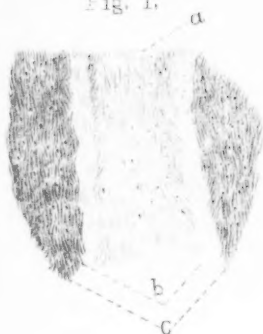
Scavenger cells; senile
dementia.
Bevan Lewis' method. $\times 480$.

Fig. 4.



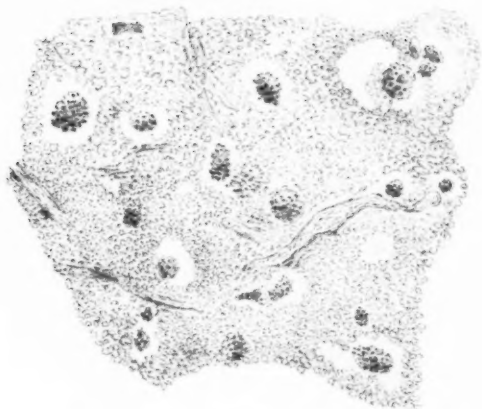
Large nerve cells, motor
cortex.
Golgi-Cajal method. $\times 240$.

Fig. 1.



- a.—Posterior columns
showing degeneration
b.—Posterior horns.
c.—Lateral columns.

Fig. 2.



Cortical cells, hardened in alcohol
and stained in carmalum, showing
shrinkage. $\times 480$.

Fig. 3.



Small, round cell, Sarcoma.
Haematoxylin eosin stain. $\times 240$.

and then again heated until vapor rises. The staining seems to be as good by this modified method as by the original one. After the stain has cooled the sections are transferred to the differentiating solution (anilin oil, 10 c. c.; absolute alcohol, 100 c. c.), and are allowed to remain until no more blue color comes from them. It is well to transfer them to a second bath of this anilin-alcohol, as the first becomes decidedly clouded by the stain. A section is then placed on a slide and dried by filter paper by pressure. Several drops of oil of origanum are then allowed to flow over the section, and it is again dried by filter paper by pressure. It is then flooded with benzine or benzole to remove the origanum oil, and before the benzine has entirely evaporated the specimen is mounted in calophonium dissolved in benzine. Nissl directs that the benzine be burned off, but it does not seem necessary to the process and adds to its difficulty.

The cell structure shown by this method is best seen in the large motor cells of the upper part of the ascending parietal convolutions. A healthy cell is seen to be full of small rods stained blue with narrow unstained areas between them, while the nucleus is left unstained and the nucleolus is stained dark blue. In diseased cells these rods are partially or wholly broken down and less regularly arranged. It is claimed that changes in cell structure can be found in acute mania, where other methods show nothing abnormal. Fig. 1, Plate I, shows large cells from the motor area of the upper portion of the ascending parietal convolution of the hemisphere in a case of general paralysis of the insane. The degeneration of the rods, of which the cell is composed, is most marked at the lower end of the cell A, while at the other end of the cell the arrangement is more nearly normal.

It has been claimed that the apparent cell structure obtained by Nissl's method is an artefact, and the rapid hardening in absolute alcohol, together with the staining by the aid of heat, gave considerable weight to this opinion, but I have succeeded in showing the same structure of these cells, without the use of either alcohol or heat, in the following way: Sections of fresh brain were frozen and cut and then fixed in a one-quarter per cent solution of osmic acid, as in the Bevan Lewis method. They were then stained for five minutes in a one-eighth per cent solution of toluidin blue, washed in water, and then in water acidulated with acetic acid until no more blue color was given off. The sections were then transferred to distilled water, floated on slides and allowed to dry,

and, when thoroughly dried, mounted in balsam. The cell structure was shown to be the same as by Nissl's method, but the procedure is free from the most suspicious opportunities of producing artefacts. The fresh sections were simply overstained, and then the excess was removed by the weak solution of acetic acid. Fig. 2, Plate I, shows cells which were stained by toluidin blue after cutting and fixing by the Bevan Lewis method. It is not claimed for this method that it has any special advantage over that of Nissl, but it is of value in confirming the fact that the rod-like structure of nerve cells is a normal structure and not the result of chemical reagents.

GOLGI-CAJAL METHOD.

This method has proved of great value in the study of embryonic brains and of those of young animals, but few results have yet been published from its use in human pathology, and its value in this line of work is not yet established. It seems to promise much in the study of changes in nerve cells and fibers and in connective tissue cells, though the minute structure of the cell bodies is not shown. The uncertainty of its results is a great drawback to the use of the method in the hospital laboratory, but repeated efforts are often rewarded by fine specimens. Small pieces of brain, not more than one-quarter of an inch in each dimension, are left in the dark for from two to eight days, in the following mixture: Bichromate of potash, 3 per cent solution, 100 c. c.; osmic acid, 1 per cent solution, 25 c. c. For embryonic brains twenty-four hours is all the time required, but it is necessary to harden adult tissue much longer than this, especially if nerve cells and fibers are to be stained. It is necessary to use a comparatively large quantity of the solution, at least 100 c. c., for each specimen, and it should be used but once. When hardened, the specimen is washed in water and then left in a small quantity of a three-quarter per cent solution of nitrate of silver, in the dark for fifteen minutes. It is then placed in a fresh solution of silver nitrate of the same strength, of which it is best to use at least 100 c. c. The bottle containing this solution and the specimen is placed in an incubator at a temperature of from 25° C to 35° C, according to the elements to be stained. If one wishes to stain nerve cells the temperature should be about 25°, but if neuroglia cells are the objects to be brought out it should be about 35°. The staining takes from two to six days, and, as the process is very uncertain, some writers advise the cutting of sections at intervals to see if the silver has penetrated the specimen. If the

penetration is complete, the color is dark red or brown. Crystals-of-silver salts often form on the surface of the tissue, and sometimes extend into it, and, to prevent this, celloidin, gelatin, and blood are recommended by various pathologists, but they do not always serve their purpose. When properly stained the specimen is placed in alcohol for a few minutes, and the excess of silver is removed by a camel's-hair brush. If it is well hardened it is simply fastened on a block of wood by celloidin and cut into alcohol, but it is necessary to partially infiltrate the specimen if it is soft, by leaving it for about fifteen minutes in a thin solution of celloidin. Sections should be cut immediately and the specimen should not be left in alcohol longer than is necessary to harden the celloidin. Sections are dehydrated rapidly in absolute alcohol, cleared in xylol or a mixture of equal parts of xylol and pyridin (recommended by Andriezen to prevent brittleness), transferred to slides, where the xylol is removed by filter paper by pressure. They are covered by a thick solution of dammar varnish dissolved in xylol, and are left without cover glasses. Both Andriezen and Goodall recommend that no cover be applied, even after the xylol has evaporated, and say that the specimen will not keep if it is covered, but it is not yet certain that they are permanent when left uncovered. Nerve cells, glia cells, and their processes are stained black, and blood vessels are also shown.

Fig. 4, Plate III, shows large nerve cells and their processes, which are brought out much better than the cells themselves. Fig. 1, Plate III, shows scavenger cells. Both specimens are taken from a case of chronic mania.

WEIGERT-PAL METHOD.

This method is one of the best for staining medullated nerve fibers, and to show degenerated tracts. The tissue must be hardened in chrome, and it is important that it should not be allowed to remain in the hardening fluid too long, as the sections will then be so brittle that they will not stand the necessary manipulation. It is best to infiltrate and imbed the specimen in celloidin, even if it is small. Sections are cut into alcohol and washed in distilled water. If they are not of a greenish yellow color, they have not enough chrome to take up the stain, and should be immersed for twenty-four hours in a 2 per cent solution of bichromate of potash. The excess of chrome is then washed out in distilled water, and the sections are stained for from twenty-four to

forty-eight hours in Weigert's hæmatoxylin—hæmatoxylin, 1 grm.; alcohol, 10 c. c.; distilled water, 90 c. c. (This should stand for at least two weeks, and should be filtered before use.) To this stain a saturated solution of lithium carbonate is added in sufficient quantity to give a good color, from five to ten drops of lithium carbonate solution to each watch-glass of stain. It is rarely necessary to stain the sections much over twenty-four hours, but they should be of a dark blue color (almost black). They are then washed in distilled water, and placed in a one-quarter per cent solution of permanganate of potash, for from thirty seconds to one minute. This is then drained off, and the differentiating solution is poured on and allowed to remain until the gray matter is decolorized, and the white matter appears blue-black or brown.

Differentiating solution: Oxalic acid, 1 grm.; sulphite of potash, 1 grm.; distilled water, 200 c. c.

If the differentiation does not seem sufficient, the solution of permanganate of potash may be poured on again for a few seconds, and the bath in the differentiating solution is repeated. It is best to use the permanganate a short time for trial on a section at first, as it is safer to repeat the process than to run the risk of having a number of sections exposed too long to the action of the permanganate, in which case most of the stain will be removed. When differentiation is complete, the sections are washed in distilled water, dehydrated in alcohol, and then in absolute alcohol, cleared in xylol, and mounted in xylol balsam. If sections are allowed to remain in water to which a few drops of saturated solutions of lithium carbonate have been added for about half an hour before dehydration, the fibers have a good blue color and are more distinct. If double staining is desired, it is done by alum or borax carmine, after washing in distilled water, and the sections are then washed again, dehydrated, cleared, and mounted.

Medullated fibers appear dark brown or dark blue against a light yellow field. It is claimed for this modification of Weigert's stain, that it gives the best results if double staining is desired, because the field is thoroughly decolorized. Cross sections of medullated fibers appear as small rings.

Fig. 2, Plate III, shows the fibers in the posterior column of the cord of a case of locomotor ataxia. The medullary sheath of the fibers is stained dark blue, while the center of the fiber and the background is left unstained.

HÆMATOXYLIN AND EOSIN.

This method of staining ordinary tissues is recommended by Delafield and Prudden, and the solution of hæmatoxylin is usually called "Delafield's." It is made as follows: "To make 600 c. c. of the solution, take 400 c. c. saturated solution of ammonia alum, and add to this four grm. crystallized hæmatoxylin dissolved in 25 c. c. strong alcohol. This is exposed to the light in an unstoppered bottle for three or four days, when the color will gradually change from a dirty red to a deep bluish-purple color. The solution is now filtered, and 100 c. c. each of glycerine and Hastings' wood naphtha are added. After standing for a day or two the solution is filtered, allowed to stand for another day and again filtered, and this is repeated until a sediment no longer forms in the fluid." This solution is diluted before use in the proportion of one part stain to from ten to twenty parts of distilled water. Sections are stained from one to ten minutes, according to the structure of the specimen. It is well to try one section on a slide for a short time, wash, and examine in water with a low-power lens, to see if the section is properly stained. For ordinary sections hardened in alcohol, two or three minutes usually gives a good result, with a stain used in the proportion of one part stain to fifteen parts of distilled water. After staining, the section is washed in distilled water, dehydrated in alcohol and then in absolute alcohol, cleared in oil of cloves or oil of origanum, and mounted in balsam. To double stain with eosin, add a sufficient quantity of eosin to the absolute alcohol to give it a decided yellow color.

This stain is not specially adapted to bring out nervous structures, but is very good for general work. Nuclei are stained dark-purple, and cell bodies a lighter purple; and, if eosin is used, the connective tissue is red. Fig. 3, Plate IV, shows a section of a small round-celled sarcoma stained by Delafield's hæmatoxylin and eosin.

CLEARING AND MOUNTING.

It is unnecessary to take up these subjects in detail, as the proper method has been given with each of the special stains. For clearing, oil of cloves, oil of origanum, xylol, and benzole; and for mounting, balsam, colophinium, and dammar varnish are necessary to carry out the processes which have been described.

GENERAL PROCEDURE.

It is necessary to perform the autopsy as soon after death as pos-

sible, for post mortem changes in nerve tissue are extremely rapid. The medical staff of a hospital for the insane can accomplish much, in the way of pathological investigation, if several of them are willing to give up some time to the work. A long training in the technique is not necessary, though, of course, it is extremely valuable. If there is no regular pathologist, it is well for each physician to make the autopsy in the case of his own patient, and he should dictate the gross lesions found at the time, if possible, and should follow a fixed plan, such as that given in Howden's *Index Pathologicus*. A piece of brain should be removed from whatever area is to be specially studied and given to one of the staff, who should freeze it, and proceed according to the Bevan Lewis method. Another piece of brain should be placed in absolute alcohol to harden for Nissl's method, or some of the frozen sections may be stained in toluidin blue, and treated with weak ascetic acid to show the same minute cell structure. One or more portions of the cortex should also be prepared by the Golgi-Cajal method, if time allows; and the Weigert-Pal method should be used when it is desirable to stain medullated nerve fibers. If any organ outside the nervous system is to be prepared for microscopical study small portions of it should be placed in alcohol of weak strength, to be stained by hæmatoxylin and eosin. It is not to be supposed that the methods described in this report are all that are good in this line of work, but simply that they have proved of value, and that they will repay careful work by showing interesting lesions in disease of brain and spinal cord. It is a disadvantage that the special methods required for nerve tissues are difficult, and sometimes uncertain, but success is all the more gratifying.

GROSS SPECIMENS.

When it is desirable to save the entire brain, or large portions of it, to show gross lesions, the specimen can be placed in a mixture of equal parts of alcohol and water. This should be changed several times until the fluid remains clear. Glycerine and water in equal proportions, to which a small quantity of carbolic or boracic acid should be added, make a good preservative fluid, and Müller's fluid is also used, and can be followed by glycerine, and finally by alcohol.

GIACOMINI'S METHOD.

The great advantage of this method is that a permanent specimen is obtained which can be varnished and allowed to remain exposed

to the air. It is especially useful to preserve lesions on the surface of the cortex, but can also be used for dissections. The brain is placed in a saturated solution of chloride of zinc, with the pia mater left on, and should be turned frequently, as it floats with part of its surface exposed. On the second day the membranes are stripped off and the brain is returned to the zinc solution and left there from four to six months. The original method did not require such a long stay in the zinc solution, but it has been found at the West Riding Asylum at Wakefield that the specimens are more permanent if left for this length of time. The specimen is transferred to alcohol and left there for two weeks, and is then allowed to remain in pure glycerine for from three to four months, when it is wrapped in soft cloth until dry, when the surface is varnished.

CASTS.

Casts of the brain may be made of plaster or of mixture of glue and molasses as recommended by Goodall. The mold is made of paraffine, which is poured over each hemisphere separately, placed in a dish with its median surface down. The paraffine should be just above the melting point, and should be poured on slowly, so that the brain is not injured by the heat. It is well to take at least ten minutes to pour on the melted paraffine, and as soon as its surface is hard the dish containing it is placed in cold water. Cut the paraffine free from the dish, and allow the brain to slide from the mold. To make a plaster-cast, mix plaster and water with enough salt to make it set quickly and fill the mold; and when the plaster has set, melt off the paraffine in a dish. The mixture of glue and molasses is that which is used for printers' rollers, and melts at a lower temperature than the paraffine, but must not be hot enough to affect the mold. If whiting is mixed with this material the color resembles that of brain, so that the cast is a good imitation of a hardened specimen. A piece of tape put in the mixture before the mold is full is useful in removing the cast.

ALCOHOLIC INSANITY DUE TO SECRET DRINKING, AFFECTING TWO SISTERS.

BY PHILIP ZENNER, A. M., M. D., CINCINNATI,
Clinical Lecturer on Diseases of the Nervous System, in the Medical College of Ohio.

The two cases to be reported are of interest, in as much as they occurred in sisters belonging to a family mostly healthy, where there was otherwise no pronounced drink habit. The two cases occurred quite independently of one another, as probably each sister knew nothing of the drink habit of the other. I regret that I have only meager notes to assist me in this report.

CASE I.—Mrs. A., age thirty-one, German parentage. Her parents are healthy and robust and rather abstemious in their habits. A cousin was insane. Patient had chorea at six, which continued off and on until she was ten years of age. She has usually been quite strong and healthy. She has been married eleven years; has three children, the oldest eleven, the youngest three years of age. One child, a deaf mute, died eight months before I saw the patient, and it is thought that she has not been altogether the same since that time. One of the first peculiarities observed in her actions was that she began making complaints about her mother, who lived with her, saying that she did not treat her—the patient—well, and that she was acting in a strange manner. Subsequently mental symptoms were more noticeable, and occurred within a few days of an attack of severe pain in the head and back. She then spoke of there being thieves in the house, quarreled with her brothers and sisters, charging them with various misdeeds directed toward herself, her conduct appearing very irrational to her family. She was very irritable and excitable, though she still attended to her household duties, and did them well. A similar state continued for months—irritability, excitability, charges of wrong-doing, and angry feelings toward the supposed ill-doers—though there were great variations in the symptoms, at times a tendency to violence, and again such a marked improvement that the family expected a speedy recovery.

I first saw the patient after this state of things had continued for some months. I found the patient to be a large, florid, robust-looking woman, with all the functions of the body apparently normal, excepting that there was slight indigestion. She knew I had been sent for to examine her, and received my visit very unwill-

lingly. It was with difficulty that I could get her to tell me about herself, especially to give expression to her peculiar ideas. Finally she stated that she was being acted upon in a mysterious manner by occult forces; among the latter were electricity, magnetism, and light. But she would not say why or by whom this persecution—for as such it was probably considered—was instigated.

I saw the patient several times in the next few weeks. On the day of my first visit several cases of serious illness occurred in her family, and continued as long as the case was under my observation, the nursing being in part done by my patient. During this time her condition was rather better. Though she would get unreasonably angry at times, she gave less expression to false ideas, and did her duty fairly well as a nurse. This serious illness in the family (finally terminating with the death of one of the afflicted, a child of the patient) prevented such close watching of the patient as I wished, and she obtained and drank beer daily in large amounts. Of this none of the family appeared to be aware, though inquiry at a neighboring saloon revealed that this had been going on for many months.

With a little effort she was deprived of drink altogether, and in the course of one or two weeks her mind appeared to be quite sound. Several years have elapsed since. So far as I can learn, she has taken no more alcoholic drink, and has been quite well.

CASE II.—Mrs. M., age forty-seven, sister of Case I. It is known that she had been accustomed to taking alcoholic drinks, chiefly wine, for years, though to what extent is not known, as her drinking was mostly done secretly. Within a year she has suffered with several attacks of what was called neuralgia of the stomach, for which she has received morphine hypodermically. To what extent the latter has been done is again unknown. I saw her in consultation after she had been confined to her bed for a week. Prior to that time she had been away from home, and reliable information as to that period was lacking. During the week she had been in bed she had no alcoholic drink, and was more or less delirious, at times actively so.

I found the patient with a physique differing from that of her sister's, rather slightly built, but fairly nourished. She had a coated tongue, constipated bowels, little appetite, rather feeble and rapid pulse, and disturbed sleep. There was a dream-like state of consciousness. She did not recognize members of her family; would address them as acquaintances or as strangers; did not know where she was; had many hallucinations of sight and hearing. When I

introduced myself to her, she seemed delighted to see me, said she would like to kiss me, spoke of marrying me, etc.; and then, a few moments later, feared my purpose was to kill her, thereby manifesting the cheerful or hilarious mood on the one side, the fearful on the other, each of which was likely to appear at any moment. Among other things, she spoke of different people being in bed with her, of being robbed, etc. Altogether, her delirium was mild, and she was not difficult to control.

I saw her occasionally for a period of six weeks. Her general condition soon became much better, stomach and bowels in good condition, sleep and general nutrition better. The state of mind slowly improved to that extent that there were no manifest hallucinations, that she recognized her surroundings and the people about, and spoke, in large part, reasonably. But her mind was still full of delusions, mostly of a sexual tinge. She would almost spin out romances of the infidelity of her husband, of his lascivious relations with her nurses, etc. Withal she was mostly cheerful or of a jovial mood, though occasionally given to tears. A similar condition, though perhaps to a less marked degree, existed at the end of six weeks. She was then, at the wish of the husband, removed to the country, where she was said soon to have regained full mental health.

While under treatment she often begged for wine, giving various reasons — that she required it to gain strength, etc.; but she was ordered to have no alcoholic drinks, and, as she was under the close scrutiny of careful nurses, she doubtless received none. It was claimed that she obtained none after she was removed to the country, prior to the time of her full recovery. Since that time she is known to drink, presumably, only moderately; and now, after the lapse of a year, she remains well.

Though these cases are interesting — unfortunately my few notes enable me to but slightly reproduce the clinical pictures — there is nothing in each, taken separately, that would justify my publishing it. But the coincidence of the same conditions in two sisters, each case being quite independent of the other, lends them additional interest. It is true the two cases are unlike. In the first the mental symptoms were the direct result of drink, and the mental symptoms were most marked, in all probability, at those times when the largest amount of alcohol was consumed. In the second case the withdrawal of alcohol was doubtless, in part, responsible for the mental disease.

GYNÆCOLOGICAL DISORDERS AND THEIR RELATION TO INSANITY.*

BY CLARA BARRUS, M. D.,

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Below is given a table of one hundred cases examined in this hospital during the past year, the conditions being those noted at the time of the examination, before any treatment was given.

Unlike the cases reported last year, the majority of these examinations were made whether the patient presented symptoms calling for a uterine examination or not; therefore, the conditions found give a fair idea of the amount of gynæcological work called for among insane women. They also show how necessary is a thorough physical examination of the insane, since the manifestations which would lead one to make a uterine examination are often wanting in these patients. Out of one hundred cases here reported, only three complained of vertex headaches, pains in the back and limbs, and the bearing-down feeling so often experienced by sane women suffering from uterine disorders. The surprising tolerance of pain and discomfort so common among the insane may account, in part, for the paucity of those symptoms which we ordinarily look for before resorting to a gynæcological examination. Then, too, the pain and discomfort felt by insane patients may often be misconstrued, and, while we get no expression of pain itself, we may get the expression of the delusions that they are pregnant, that electricity has been applied to them, that their persons are violated in the night, that they are being eviscerated, etc.

A perusal of the accompanying table will convince one of the truth of Morel's statement that, although the brain is always the seat of insanity, it is not always the seat of its cause. It is by no means claimed, however, that insanity in all the cases here reported is of reflex origin.

A synopsis of the table is here given:

The ages of those examined range from twelve to eighty-four.

Civil condition.—Married, 58; unmarried, 42.

Menses.—Climacteric passed, 39; three in whom it was induced by ovariectomy, and one is still undergoing the change; regular, 38; irregular, 18; profuse, 4; scanty, 2; amenorrhœa, 4; dysmenorrhœa,

*This paper forms a part of the current official report of the Middletown State Hospital.

3; puberty not established, 1; aggravation at menses, 13; insanity attendant on menstrual suppression, 3.

Leucorrhœa.—Thirty-four cases, 13 of which have leucorrhœa profuse, and 4 very offensive.

Uterus.—Seventeen show distinct post-climacteric atrophy; 9, enlarged uterine cavities; 12, enlarged cervixes; 43, erosions of varying degrees of severity, from slight irritations and abrasions about the os, to severe granular erosions; 7, lacerated cervixes, one having been repaired before admission; 8, unsymmetrical cervixes; 4, relaxed, atonic uteri; 17, retroversion; 3, anteversion; 7, latero-version; 8, normal uteri; 3, old adhesions around cervix; 3 cases of pin-head os; 2, cervix and vagina anæmic; 1, cervix and vagina cyanotic; 3, vaginitis; 1, procidentia; 1, juvenile uterus.

External genitalia.—Normal, 35; perineum ruptured, 17; collection under clitoris, 13; nymphæ hypertrophied, 11; one nymphæ enlarged, 1; absence of nymphæ, 2; clitoris elongated, 2; nymphæ and clitoris very small, 4; cystocele, 2; rectocele, 1; vulvitis, 3; hyperæsthesia of vagina, 3; rigid hymen, 1; irritation about introitus vaginæ, 2; irritation about urethra, 3; œdema of labia majora, 1.

Anomalies and new growths.—Malformations of vagina with no projecting cervixes, ores being mere slits in vaginal mucous membrane, 3; acquired atresia vaginæ, 1; abnormal growth of hair on genitalia, 2; sub-peritoneal uterine fibroid, 1; interstitial uterine fibroid, 1; uterine polypi, 5; urethral caruncles, 2; verrucæ vulvæ, 1.

Masturbation.—Twenty-seven known; 7 suspected.

Mental disease.—Melancholia, 42 cases, 24 of which are acute, 16 are chronic, and 2 are lactational. Mania, 19 cases, 5 of which are recurrent mania; 7, chronic mania; 4, acute mania; 3, puerperal mania. Dementia, 19 cases, 15 of which are terminal; 1, senile; 2, secondary; and 1 masturbative dementia. Paranoia, 10 cases; imbecility, 4 cases; nymphomania, 3 cases; epilepsy, 3.

Miscellaneous.—Hæmorrhoids, 13; prolapsus recti, 1; sphincter vesicæ weakened, 2; ovariectomy previously performed, 4; clitoridectomy, 1; vaginismus, 1; patients with children born out of wedlock, 4; delusions of being pregnant, 6; delusions of violation in the night, 6; obscene in manner of conversation, 10; confessed having masturbated since childhood, 9; scybala in rectum, 11; pains in back, abdomen, limbs, and on vertex, 3.

When the gynæcologist learns that it is the exception rather than the rule to find an insane woman with normal pelvic organs, he is led to question how much these abnormalities have to do with the

causation of insanity. If he belong to the class which thinks that all cases of insanity have a peripheral origin, he finds himself in as advantageous a position as the individual who is said to be able to cite Scripture to his purpose, for he has an abundance of clinical material from which to quote. He is in danger of being blinded to the other side of the question, namely, the one held by those who believe insanity wholly due to defects of the central nervous system. But if he is searching for truth, and joins neither class of extremists and if he is willing to abandon all preconceived notions, he finds himself where the searcher after truth always finds himself—in a position where he suspends his conclusions; where he is cautious how he clings to any theory, and where he receives the positive deductions of others with not only a grain but a full ounce of salt.

The causes of insanity in women may be, nay, they probably are, as varied, and many of them identical with, the causes of insanity in men; for we have always to remember that both before and after one is a wife and mother (and consequently subjected to the forms of puerperal and lactational insanity), one is a human being, and the elements that enter into the causation of mental aberration in women will develop along the line of the experiences and inheritances that come to her as a human being, *with the addition* of those which come to her as a human being of the female sex. Therefore, domestic troubles, reverses of fortune, worry and overwork, and excesses both in drink and in sexual matters, are among the causes of insanity in both men and women, together with the predisposing causes of a bad heredity, of consanguinity of parents, of epilepsy, etc. Besides these, women have the additional physical and mental strain resulting from the physiological crises which come to them as women—the establishment of puberty; the regularly recurring monthly period throughout their menstrual life (when uninterrupted by diseased conditions or by pregnancy); pregnancy itself, and the attendant perils of parturition; the puerperal state, and lactation; then, having undergone all these, the grand climacteric.

Now it must be remembered in enumerating all these causes of insanity that no one of them is sufficient *per se* to produce insanity. The normal human being is so constituted that he bears the ordinary troubles and trials of life (and even the extraordinary ones), and also the natural physiological crises, without any permanent disturbance in the equilibrium of the organism; when, therefore, any one of the above mentioned experiences is the cause of mental aberration, we must acknowledge that, although a coöperating cause

of the insanity may be found among these influences mentioned, yet the primary cause must be sought farther back, being bound up in the very warp and woof of the individual—in an unstable organization, causing him to be disturbed by things which would produce only a temporary influence on a healthier organism. Therefore, when we hear of someone becoming insane from business reverses, from religious zeal, from the death of a dear friend, or as a result of a major or even a minor operation, we must simply regard this as the exciting cause—"the last straw that broke the camel's back"—while the real cause lies in what Maudsley calls "the tyranny of a bad organization."

Bearing these facts in mind, we can safely question what influence gynæcological disorders exert upon the insanity of women, either as causative factors, or as a means of retarding cures.

Next to self-preservation, the reproductive instinct is the most dominant one of the animal kingdom. It of necessity follows that derangement of those organs which are the seat of the function of reproduction will have an important bearing on the physical and mental welfare of the individual.

One is led to ask why the generative organs should play a more important part in women than in men in the causation of disease. Gynæcologists explain it by saying that the ganglionic system of nerves in women is more developed than in men, the great center being the solar plexus. The intimate relation between the sympathetic and the cerebro-spinal nervous systems, their reciprocal action on each other, explains why we witness so many reflex functional disturbances from local lesions. At the same time we know that the gravest lesions of the reproductive organs do not cause mental disturbance in some women, while the slightest local trouble affects others profoundly, and out of all proportion to the extent of the lesion found. For an explanation of this fact we must consider the instability, in individual cases, of the central nervous system, and its susceptibility to disturbing influences.

The influence of menstruation on insanity, or of insanity on menstruation, is an interesting question, but one concerning which it is hard to come to any conclusion, since the disturbance of this function must sometimes be regarded as a cause and sometimes as an effect of insanity. While there are some cases of acute hyperæmia of the brain and subsequent mania undoubtedly resulting from sudden cessation of the menses, there are many others where insanity is the forerunner of the amenorrhœa.

Cases of recurrent mania are quite apt to manifest their exacerbations at the recurrence, or the attempted recurrence, of the menses. These cases almost always have a history of neurotic inheritance.

Many insane women menstruate with as much regularity and as little disturbance, or even less disturbance, than an equal number of sane women. In fact we are called upon less frequently, I believe, to prescribe for dysmenorrhœa in insane hospitals than we would be in caring for as many sane patients, although this may be due to the greater tolerance of pain among insane patients.

There are, however, many patients who evince marked aggravations at their menstrual periods. The violent are more violent, the obscene more obscene, the epileptics more furious, the melancholiacs more depressed, and the maniacs more exalted; although just the reverse of this is sometimes true, and, with the establishment of the flow, some cases of mania become calm and coherent, while some cases of melancholia experience a hopefulness which is observable in voice, manner, and entire bodily expression. As a rule, amenorrhœa is more observable in melancholiacs, while those suffering from mania are more liable to menstruate with untroubled regularity.

Hardly any condition among the insane is so deplorable in its manifestations as the habit of masturbation. The perversion is, in any case, a lamentable one, but when observed, as it often is, in women who are by nature and training refined and cultured, and, when thus observed, often accompanied by an incredible obscenity of thought, speech, and manner, one is moved to do his utmost to help the patient abandon this practice.

We often find it stated that hypertrophy of the nymphæ, or of the clitoris, are signs of indulgence in this habit. A perusal of the accompanying table will show that while this anomaly is often found in masturbative cases, there are many others in which such hypertrophy is unaccompanied by any sexual perversion; and, moreover, there are also many cases where the perversion is found in patients with normal vulvæ, or in others where the nymphæ and clitoris are very small, or, in still others, where they are practically absent. Repeated excitation of the genitalia by masturbation probably results in hyperæmia of not only the external genitalia, but also of the uterus and its annexa; hyperæmia frequently induced leads to congestion, and congestion to hypertrophy, as a result of the exaggerated nutrition of these organs. But just why this hypertrophy should not result in all masturba-

tive cases it is difficult to determine. Sometimes an hypertrophy of but one nympha is found.

A condition frequently found among the cases reported in the table is that of an accumulation of hardened secretion under the *præputium clitoridis*. This secretion in the thirteen cases mentioned is a hardened, semi-organized mass, so hard in some instances as to merit the term concretion, the mass being held there by a sort of superficial adhesion of the prepuce, and in many cases being removed with difficulty. That this should give rise to nervous irritation, which would in many cases lead to pruritus, and subsequently to masturbation, is not to be wondered at, and enthusiasts in official surgery would probably assert that masturbation, when present, is the direct result of this condition alone. From the anatomical structure of this organ and its nerve supply we can easily see that secretions retained as above mentioned will exert a pernicious influence on the female economy; it can hardly be otherwise. The removal of such secretions, and the destruction of the adhesions, naturally lead one to hope for favorable results to the mental condition. But we are here confronted with the fact that while this condition is associated in many instances with the habit of masturbation, it is also found in cases where we have no reason to believe that the habit exists, although it might be urged that the condition may have given rise to other nervous disturbances quite as pernicious, if not to masturbation itself. The anomaly being found in some cases of chronic insanity, especially terminal dementia, we can not hope for an amelioration of the mental disorder, though we remove the condition. At the same time it would be an unjustifiable neglect to fail to remove, when possible, this condition, which may exert so pernicious an influence on the nervous system. Not so the condition of elongation of the clitoris, the operation for the removal of which has been and is still so much in vogue. It seems to me to be a very reprehensible practice, inasmuch as the worst case of masturbation I have ever seen is that of a young woman who has had clitoridectomy performed. This patient had masturbated, more or less, all her life, and finally, after suffering from several attacks of nymphomania, decided to have the clitoris amputated. The result was not only failure to relieve the nymphomania, but even an increase in its severity, causing a shameless and, almost literally, continuous indulgence in the habit.

Everyone who has to do with this unfortunate class of patients finds, to his disappointment, that some cases will persist in the habit

in spite of everything that can be done; padded mits, restraining of hands and feet, the protection sheet, moral suasion—all means are tried to protect the patient from herself, with the result of seeing her, when thwarted, exhibit manifestations which show that she is indulging in a sort of vicarious masturbation, the center of excitation apparently being in the mind itself. Nevertheless, these facts should not deter one from removing every possible source of nerve irritation, nor from trying every known means to aid the patient, in spite of herself, to escape from the baneful practice.

In regard to sexual perversions we must, then, conclude that, while they undoubtedly produce psychoses, we also find that they are often an indication of already existing disease; they are, in other words, the effect and not the cause of the insanity.

The cases having delusions of being pregnant are almost invariably among women who are passing, or who have passed, the climacteric; they are also apt to be found in either unmarried women or widows, or in women who have long been separated from their husbands. The delusion that she is pregnant is apt to be associated with the one that the patient is violated in the night; cases of this kind receive from some authors the opprobrious term of "old maid's insanity." Not a few of the delusions of having been violated in the night have been traced to the occurrence of lascivious dreams; sometimes the patient expresses herself clearly as having had a dream of this nature; from another of less mental integrity, one hears the expression of the belief that the condition is one of violation, and that she was drugged for the purpose.

The intimate clinical connection between sexual perversions and morbid religious zeal is one which all who have to do with the insane must have observed. The form of insanity popularly known as "religious melancholia" is almost invariably characterized by sexual perversions in some form or other. Patients who believe that they are the Virgin Mary, the bride of Christ, the church, "God's wife," and "Raphael's consort," are sure, sooner or later, to disclose symptoms which show that they are in some way or other sexually depraved. Some having this morbid self-feeling may have sufficient mental integrity left to conceal any such delusions that they may have, and yet are noticed to evince an unhealthy religious sentimentality, which manifests itself in the perusal of religious books and topics, in the contemplation of mystical rites, and in a religious fervor that is all too plainly associated with an irritative sexual condition.

The survival of the sexual instinct in women years after the menopause strikes one as peculiar. Some of the worst cases of obscenity of speech and manner occur in women over sixty years old. One case of a woman sixty-four years of age is peculiarly distressing. She has attacks of *furor uterinus*, mostly at night; at the same time she is a constant sufferer from androphobia; she is made uncomfortable at the sight of men, from hearing their voices, or even from knowing that they are in the house; not so much because of any desire which this knowledge begets, as because it induces a horrible fear in her waking hours which is apt to culminate in an erotic dream during sleep. Being a sensitive, refined, and conscientious woman, her life is a burden to her because of this constant, ineffectual struggle to overcome this feeling. Yet there are, at present, no manifestations of local trouble of any kind, the only departure from the normal being the post-climacteric changes one naturally expects to find at that age.

The peculiarity of the sexual instinct surviving so long after the menopause, or of its appearance before the development of puberty, is by no means so much to be wondered at as the presence of the instinct in a woman in whom there was congenital absence of the uterus and ovaries—the absence being proven by an autopsy. The patient was in no way masculine; on the contrary, she was attractively feminine when sane. She suffered from recurrent mania, at which times she masturbated shamelessly, and, in her lucid intervals, proved the possession of the sexual instinct by her confession that she had long indulged in illicit intercourse with her lover. She excused herself on the ground that the instinct was very strong, and that her condition was such that she had no fear of pregnancy; furthermore, she said that since she had been created different from other women, she need not be subjected to the same rules of conduct as others. Another case was reported last year as probably one of congenital absence of the uterus and its annexa. Further examinations by rectal exploration have discovered something which is probably a rudimentary uterus. The patient has never menstruated; the vagina is a mere cul-de-sac. External genitalia and mammae normal; sexual instinct developed. Patient has had delusions of being accused of unchastity and of pregnancy; talks in a silly manner about her "beau," and is very susceptible to flattery. She has always been feeble-minded.

We naturally expect the transmission of an instinct will depend on the transmission of the organ. That a woman with congenital

absence of uterus and ovaries should still possess the instincts, the expression of which is ordinarily dependent on these organs, can only be explained as one explains the transmission of other hereditary instincts in the lower animals—the young hare possesses the timidity, and the young fox the cunning, which they have inherited from a long line of progenitors, and though they should be born under circumstances where the resultant caution from the timidity or the exercise of the cunning were no longer necessary, those traits would still appear for several successive generations. The instincts which are common to the race, by transmission from generation to generation (especially so fundamental and universal an one as the reproductive instinct), will not, therefore, fail to appear in the few isolated cases where there is a congenital absence, or a rudimentary development, of the organs upon which the manifestation of the function depends.

A glance at the table showing the number of cases of the different forms of mental disease in those having gynæcological difficulties might lead one to form the erroneous opinion that these lesions are associated more often with certain forms of insanity than with others; for instance, there are thirty-six cases of melancholia, twenty-one of dementia, only nineteen of mania, ten of paranoia, and twenty-four miscellaneous. The fact that cases of melancholia and dementia are more tractable and more easily examined, while those of acute mania are with difficulty examined, accounts for the increase in the number of the first mentioned cases. Cases of paranoia are with difficulty persuaded to submit to gynæcological investigation because of the suspicious character of their delusions. It is also often difficult to get patients with sexual perversions to submit to an examination. There seem to be two classes of these cases, the one class evincing an offensive alacrity, while the other submits, but with a feeling of apprehension and resistance that is quite characteristic of certain masturbators.

Probably every hospital has a certain number of women whose insanity has developed after an ovariectomy. The natural tendency is to form the conclusion that the operation has been the contributing cause of the mental disorder in these cases. But is it a fair conclusion? While this may be true in some cases, especially in those of neurotic temperament, it is also true of the four cases reported in the table, and of several others observed, that the operation had little, if any, bearing on the development of the insanity. In some instances previous attacks of insanity existed months, and

even years, before the operation as a *dernier resort* was attempted. In others the history shows that the operation was performed several years prior to the manifestation of the mental symptoms, while other patients have been members of families having pronounced neurotic predispositions.

The effects of operations on those already insane can not be discussed at any length, since very conservative measures in this respect are in vogue in this hospital. The operations performed during the past year have been limited to those for dilatation of the cervix, the removal of polypi, the freeing of the *præputium clitoridis*, the curetting for endometritis, and in one case the breaking up of adhesions caused by a scalding douche, which had resulted in an *atresia vaginae*. Of course, topical applications, hot vaginal douches, and sitz baths, the corrections of mal-positions as far as possible, and the other ordinary gynæcological procedures, have been followed with varying results. How much the correction of these disorders has had to do with the amelioration of the mental condition, it is impossible to state; many of those treated have been cases of terminal dementia, and other chronic forms of insanity; many of the acute cases had already begun to improve mentally before local treatment could be instituted, and not a few showed improvement in the local conditions with little or no perceptible change in the mental disorder.

However, in the face of the fact that the majority of insane women present varying degrees of local lesions, one conclusion, at least, may be reached. We should examine each case as soon as possible to find whether or not there is any abnormality, and finding it, remove it just as far as possible; by so doing we shall have lessened the degree of nerve irritation, and shall have at least removed some "stumbling-blocks" in the way of the patient's recovery.

The following tables present the details of the one hundred cases that form the basis of this paper:

Case.	Age.	Sex.	No. of Child. (Condition.)	Menses. (Miscar. Res.)	Leucor. (Throm.)	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturba- tion.	Mental Disorder.	REMARKS.
1	56	F.	0	Climacteric passed.	-----	Atrophy. Cervix and vagina anemic. Pin- head os.	Irritation about introitus vag.	-----	-----	Dementia, (Terminal.)	Old hemorrhoidal projections at anus. Patient declares she is 5 months pregnant "with Jesus Christ's baby." Increases apparent size of abdomen by clothing and posture.
2	45	M.	0	Climacteric passed.	-----	-----	Normal.	-----	-----	Melancholia (Acute.)	Has always been feeble-minded. Has masturbated since youth.
3	72	F.	0	Climacteric passed.	-----	-----	Hymen unruptured and rigid. Clitoris elongated with a thickened secre- tion around hood. Hemorrhoidal secre- tion around chlo- roid.	-----	Yes.	Dementia, (Terminal.)	-----
4	47	S.	0	Climacteric passed.	-----	Atrophy. Old adhe- sions around a small cervix.	Perineum rup- tured. Cervix enlarged.	-----	-----	Melancholia (Chronic.)	Prolapsus of rectum for about 1 1/4 inches, also an ulcerating mass of hemorrhoidal tissue, which causes great distress at stool.
5	50	M.	2 c. 3 m.	Regular and profuse.	-----	Measures 3 3/4 inches. Cervix soft, flabby, enlarged. Slight ir- ritation about os.	Perineum rup- tured. Cervix enlarged. Vagina cy- anotic.	-----	-----	Melancholia (Acute.)	Weakness of vesical sphincter in coughing or sneez- ing.
6	27	M.	5	Menses a p- peared four mos. after parturition. Climacteric passed.	Yes.	Hypertrophy. Cervix enlarged, long, and roughened. Erosion at os.	Red, everted ap- pearance of ure- thra.	-----	-----	Melancholia (Lactat' hal)	First child was born out of wedlock. Always suf- fers mental aberration during or after parturition.
7	51	M.	6	-----	-----	Atrophy. Right lat- ero-version. Uterus relaxed and hypertro- phied. Cervix lacera- ted; posterior lip hyper- trophied and eroded.	Cystocele.	-----	-----	Melan. (Chr)	Scybala in rectum.
8	36	M.	2	Irregular.	Yes.	Anteversio.	Hymen intact but easily dis- tended.	-----	-----	Melan. (Ac.)	Albuminuria.
9	22	S.	0	Regular. Dysmenor- rhea.	Yes.	Anteversio.	Normal.	-----	Yes.	Melan. (Ac.)	Sexual delusions. Puerient interpretation of harm- less speeches and acts of the doctors. Thinks she is detained here for immoral purposes. Furor uterina at periods. Tries to appear before men entirely nude. Accuses herself of masturba- tion and other horrible perversions and immoral- ities since youth. Says her insanity is due to practices resorted to for preventing conception.
10	23	M.	1	Regular.	Yes.	Anteversio.	Edema of labia majora and of anal tissue.	-----	-----	Dementia, (Senile.)	Neurotic inheritance. Delusions of growths in and prolapsus of rectum. Old hemorrhoids. Ovari- ectomy performed several years ago. Amused at attention from physicians; thinks she has been "spiritually married" to one. Talks much about "Jack the Ripper," and says a serv- ant attempted the same thing with her.
11	77	S.	0	Climacteric passed.	-----	Interstitial fibroid.	Normal.	-----	-----	Melan. (Ac.)	-----
12	38	S.	0	Climacteric induced.	Yes.	Normal.	Normal.	-----	-----	-----	-----

Case.	Age.	Condition.	No. of Child.	Menses.	Leucor.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
13	46	F.	0	Climaxis.	.....	Commencing atrophy.	Normal.	Utr. polypos at <i>os uteri</i> .	Yes.	Mania (Recurrent).	<i>Furor uterinus</i> at times. Horribly obscene. Lameness, sacral backache and pains in knees. Scybala in rectum.
14	54	F.	0	Climacteric passed.	.....	Atrophy.	Nymphæ enlarged.	.....	.....	Melan. (Ac.)	Masturbated in youth and even since marriage; denies it now. Induced a miscarriage fourteen years ago.
15	47	M.	1	Climacteric passed.	.....	Atrophy.	Nymphæ small.	.....	Yes.	Melan. (Chr.)	Vaginismus.
16	34	M.	0	Aménorrhœa.	Profuse.	Retroversion. Long pointed cervix. Erosion.	Fourchette present.	Vagina and pelvis very small.	.....	Dementia. (Second ty.)	Committed suicide. Other members of family have also done so.
17	43	M.	6	Regular.	.....	Shot-like glands in cervix.	Normal.	.....	.....	Melan. (Ac.)	Scybala in rectum. Maltreats her body horribly.
18	34	M.	4	Regular.	.....	Uterus very high in pelvis. Cervix almost obliterated.	Right labium majus swollen and ecchymosed.	Verruæ Vulvæ.	Yes.	Mania (Chr.)	Curette shows a condition of granular endometritis.
19	52	M.	?	Irregular and profuse.	.....	Cavity 3½ inches.	Collection under hood of clitoris.	.....	.....	Dementia (Ter)	Apprehensive and resistive.
20	55	F.	0	Climacteric passed.	.....	Granular erosion.	.....	.....	Yes.	Dementia (Masturb'g)	Dragging pain in sacral region. With the amenorrhœa patient became enormously stout and very demented. With the reappearance of the menses, she became more active and gradually more intelligent, and resumed her normal mental condition, which at best is that of feeble-mindedness. Negro, very deaf. Abdomen enlarged to the size of a seven months' pregnancy.
21	28	M.	3 c. 2 m.	Irregular.	Yes.	Reversion. Uterus and vagina anemic. Cervix bleeds easily.	Normal.	.....	.....	Melan. (Ac.)	Masturbates openly, even before physicians. Aggravation just before menstrual periods.
22	17	F.	0	Aménorrhœa.	Profuse and offensive.	Right latero version. Cervix very small and inflamed.	External genitalia very small. Hymen ruptured.	.....	?	Imbecility.	First child born ten months after marriage. Present attack of mania came on two weeks after she began nursing her baby. Very hysterical. Patient's child was born in hospital. Has hallucinations of hearing and is suicidal; baby is twenty months old. Old hemorrhoidal tumors at anus. Scybala in rectum.
23	46	F.	0	Climacteric passed.	.....	Uterus normal depth. Cervix normal, but bleeds easily.	Nymphæ enlarged. Collection about clitoris.	Sub-peritoneal uter. fib.	.....	Melan. (Chr.)	Has masturbated since her youth and comes of a family of masturbators. Feeble-minded.
24	33	F.	0	Regular.	Profuse.	Granular erosion of cervix.	Normal.	.....	Yes.	Dementia (Sec)	.....
25	23	M.	2 c. 1 m.	Regular.	.....	Slight erosion.	.....	.....	.....	Melan. (Lac)	.....
26	35	M.	4 c. 1 m.	Regular.	Yes.	Laceration of cervix. Severe erosion.	Normal.	.....	.....	Mania. (Imperal.)	.....
27	44	F.	0	Climacteric passed.	.....	Atrophy. Pin-head <i>os</i> .	Normal. Nymphæ absent. Clitoris elongated. Secretion under prepucce. Urethral & vaginal irritation.	.....	Yes.	Imbecility.	.....

Case.	Ave. Civ.	No. of Child.	Menses.	Leucorr.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
28	34	M.	Regular.	.....	Cervix and vagina cy-anotic.	Secretion under clitoris.	.....	.....	Paranoia.	Old hemorrhoidal projections at anus. Patient says she had an illegitimate seven-months' baby when she was 22; that she lived with her husband seven years before she was married to him, and that she has had immoral relations with various men. Profane and obscene at times.
29	53	M.	Climacteric passed.	.....	Atrophy. Measures 2½ inches. A bra-sion on os, cervix, and vagina. Cervix high up, hard to reach. Extreme tenderness in posterior vaginal fornix.	Perineum ruptured.	.....	.....	Melan. (Chr)	Scybala in rectum. Old hemorrhoids.
30	35	M.	Climacteric induced.	Profuse	Atrophy. No cervix projecting in vagina.	Perineum ruptured.	.....	.....	Mania (Rec.)	Had ovariectomy performed six years ago. Recurrent mania for nine years. Examining finger, on traversing vagina 2½ inches, encounters what appears to be adhesions stretching across the walls, making a blind pouch. Vaginal calibre very narrow. By rectal touch can feel a small uterine. Patient says she used to menstruate regularly. Vagina two inches long; no cervix discoverable; sound enters uterus through a slit-like opening at apex of the vaginal vagina. Rectal touch discovers a small uterus. Delusions of being violated in the night. Obscene and profane. Delusions of sexual intercourse "between herself and a spiritual intercourse" between herself and a Sunday-school pupil. Hallucinations of sight and hearing; saw nude pictures of her lover appear on the walls of her room at night.
31	58	S.	Climacteric passed.	.....	Measures 2½ inches. Normal. No projecting cervix.	Extreme sensibility at vaginal orifice.	Vagina a short, narrow, conical pouch.	.....	Paranoia.	.....
32	43	S.	Regular.	.....	Severe cervical erosion.	.....	.....	Yes.	Nymphom.	.....
33	24	S.	Regular.	Yes.	Severe cervical erosion.	Clitoridectomy has been performed.	.....	Yes.	Nymphom.	.....
34	26	S.	Irregular.	Yes.	Severe cervical erosion.	Normal.	.....	.....	Melan. (Ac.)	Increased depression at menstrual periods. Digital examination discovers what appear to be two slit-like openings, one at the left and below the other. No projecting cervix. Only one, however, was persons to the sound, and only one discovered by use of speculum.
35	31	M.	Regular.	Yes.	Vagina covered with minute reddish points.	Normal.	Os uteri a mere opening in vaginal mem.	.....	Demen (Ter)	.....
36	54	S.	Climacteric passed.	.....	Adhesions from left of cervix to vaginal wall. Slight erosion.	Left nymphae enlarged.	.....	Yes.	Demen (Ter)	Apprehensive and resistive. Aphorotheca during mania gave rise to the delusion that her physician who had treated her locally had seduced her. He had also used hypnotic suggestion.
37	48	S.	Regular.	.....	.....	.....	.....	.....	Mania (Ac.)	.....
38	23	S.	Irregular.	Yes.	.....	.....	.....	.....	.....	.....

Case.	Age.	Civil Condition.	No. of Children or Miscarriages.	MENSES.	Leucorrh.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
39	26 M.		2 c. 1 m.	Amenorrhoea.	Yes.		Inflamed and suppurating.	Acquired atresia vag.		Melan. (Ac.)	Previous to admission, patient took a scalding douche "by God's command." Adhesive bands stretch across the vagina, dividing it into partial pouches. The cervix could be felt through a small aperture formed by these adhesions.
40	26 M.	3		Regular, irregular and scanty.	Yes.	Normal position. Severe granular erosion. Retroversion. Enlargement and slight erosion of cervix.	Nymphæ hypertrophied.			Mania (Pu.)	Patient was brought here soon after childbirth. Was homicidal, suicidal, profane, and obscene. Extreme lewdness of speech and manner.
41	35 M.	1		Dysmenorrhœa.		Uterus small. Hypertrophy of vagina.	Normal.		Yes.	Melan. (Ac.)	Burning and pressive pain on vertex. Sacral back-ache.
42	47 S.	0		Climacteric passed.		Atrophy. Cervix unsymmetrical.	Collection about the clitoris.				Menses ceased suddenly three years ago, at which time she became delirious for some time. Present attack followed some obscure abdominal disease.
43	34 S.	0		Climacteric induced.		Retroversion. Hypertrophy of vagina.	Normal.			Melan. (Ac.)	Patient had an attack of melancholia in 23d year.
44	32 S.	0		Regular.	Profuse.	Atrophy. Cervical tissue hardened and nodular. Erosion.	Normal.			Demen. (Ter)	Present attack began six years ago. The year previous to its inception, both ovaries were removed.
45	51 M.	3		Climacteric passed.		Cavity 3 inches. Cervix soft and congested. Vaginitis. Left lateral laceration has been repaired.	Normal. Capacious vagina.		Yes.	Paranoia.	Becomes very wild and unmanageable at menstrual periods.
46	59 M.	2 c. 1 m.		Climacteric passed.			Genitalia exsanguinated.	Urethral caruncle.	Yes.	Melan. (Ac.)	Old hæmorrhoids. Masturbates and comes of a family addicted to that practice.
47	31 M.	1		Regular.	Yes.	Retroversion. Menstrues 2½ inches. Ova bleeds easily.	Hyperæmia.	Abnormal growth of hair about genitalia.		Melan. (Ac.)	Exhausting metrorrhagia for ten years till laceration was required. Hæmorrhoids. Scybala in rectum.
48	27 M.	1		Irregular.		Uterus flabby. Laceration of cervix. Cervix bleeds easily.	Nymphæ enlarged. Clitoris very small.			Mania (Pu.)	Scybala in rectum.
49	46 M.	2		Climacteric passed.	Profuse.	Atrophy. Cervix hard and congested.	Perineum ruptured.				Insanity followed childbirth, although she had one attack before marriage. Mother insane. Hæmorrhoids.
50	42 M.	1		Regular.	Yes.	Granular erosion.	Nymphæ hypertrophied.	Abnormal growth of hair on thighs and external genitalia.		Paranoia.	Hæmorrhoids. Obscene and profane. Accuses herself of having lived a promiscuously immoral life on account of impotence of husband.
51	46 M.	2		Regular.	Yes.	Retroversion. Congestion of cervix.	Perineum ruptured.			Melan. (Ac.)	Primary disease was mania (puerperal). Patient has the delusion that she is pregnant, having been violated in the night. (She is a widow.) Tries to protrude abdomen and says there is milk in the breasts. Her mother was insane with same delusions.
52	28 S.	0		Regular.	Yes.	Erosion of cervix.	Normal.		Yes.	Paranoia.	Has masturbated since she was thirteen.

Case.	Age.	Civil Condition.	No. of Children or Miscarriages.	MENSES.	Leucorrhoea.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
53	46 M.	1		Climacteric passed.	.....	Uterus normal size and position. Vag. Normal.	Normal.	.....	.....	Paranoia.	Delusion that her husband gave her medicine to produce amenorrhoea.
54	45 M.	6		Irregular.	Yes.	Left latero-version. Cervix hypertrophied and eroded. Retroversion. Uterus measures $3\frac{1}{2}$ inches. Cervix hypertrophied. Granular erosion.	Perineum ruptured.	.....	.....	Melan. (Ac.)	Delusions of being pregnant.
55	52 M.	4		Regular.	.....	Retroversion. Slight erosion. Cervix enormously hypertrophied.	Normal.	.....	.....	Demen (Ter)	
56	28 S.	0		Regular.	.....	Anteversion. Cervix enormously hypertrophied.	Normal.	.....	.....	Demen (Ter)	Epileptic attacks appeared after birth of first child. Her mother also had epilepsy following childbirth.
57	41 M.	3 c. 1 m.		Irregular and profuse.	Profuse and offensive.	Protrusion formerly. Cervix lacerated. Anterior lip hypertrophied. Granular erosion.	Cystocoele and rectocoele.	.....	.....	Epileptic insanity.	Profuse and offensive leucorrhoea for years. On examination, found imbedded in the vagina a hard rubber pessary, which was roughened and foul with vaginal secretions. Patient was ignorant of its presence. Must have worn it eight years. Thinks she is pregnant; that one of the physicians is her husband. Says she has had thirteen children (a delusion).
58	72 S.	0		Climacteric passed.	.....	Juvenile uterus.	Normal.	.....	.....	Paranoia.	Epilepsy since childhood. Masturbates; is untruthful and a kleptomaniac. Obscene and profane. Mother is an epileptic. Always insane at menses; lucid intervals between the periods. Scybala in rectum. Father and two brothers insane.
59	37 M.	3		Regular.	Yes.	Cervix hypertrophied. Stellate laceration. Retroversion. Slight erosion. Ridge vaginal prominent. Cervix soft and flabby.	Hymen obliterated. Introitus vaginal large and gaping.	.....	.....	Epileptic insanity.	
60	12 S.	0		Puberty not established.	.....	Stellate laceration. Retroversion. Slight erosion. Ridge vaginal prominent. Cervix soft and flabby.	Normal.	.....	.....	Mania (Re.)	
61	35 M.	3		Regular.	.....	Stellate laceration. Retroversion. Slight erosion. Ridge vaginal prominent. Cervix soft and flabby.	Normal.	.....	.....	Imbecility.	
62	33 S.	0		Irregular. Dysmenorrhoea.	.....	Anteversion. Cervix soft and flabby.	Collection under hood of clitoris.	.....	.....	Paranoia.	
63	48 M.	1		Climacteric passed.	Profuse.	Cervix soft and flabby.	Very large collection around clitoris.	.....	.....	Paranoia	Patient has delusions of husband's infidelity; believes the hospital is a brothel.
64	50 M.	0		Climacteric passed.	.....	Atrophy. Abscesses on vagina. Hymen preserved. Ridge prominent.	Nymphæ enlarged.	.....	.....	Demen (Ter)	
65	64 M.	3		Climacteric passed.	.....	Anteversion. Ridge prominent.	Normal.	.....	.....	Melan. (Chr)	
66	23 S.	0		Regular.	.....	Anteversion. Ridge prominent.	Normal.	.....	.....	Melan. (Chr)	

Case.	Age.	Civil Condition.	No. of Children or Miscarriages.	MENSES.	Leucorrhœa.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
67	44	M.	3	Regular.	.....	Uterus measures 2½ inches. Lacerated cervix.	Perineum ruptured.	.....	.....	Melan. (Chr)	
68	52	M.	0	Climacteric passed.	.....	Atrophy. Abrasions on vaginal walls.	Normal.	.....	.....	Mania (Chr)	
69	31	S.	0	Regular.	.....	Retroversion. Cervix presents a duplied appearance.	Nymphæ enlarged and almost black in color.	.....	.....	Melan. (Chr)	
70	55	M.	6	Climacteric passed.	.....	Cervix large for a post-climacteric one. Abrasions on cervix.	Perineum ruptured.	.....	.....	Melan. (Chr)	
71	44	M.	1	Regular.	.....	Normal position. Slight erosion.	Normal.	.....	.....	Demen (Ter)	
72	40	M.	3	Regular and profuse.	Profuse and offensive.	Uterus high up in position. Cervix enlarged and eroded. Right latero-version.	Normal.	.....	Yes.	Melan. (Ac.)	
73	49	S.	0	Climacteric passed.	.....	Atrophy. Abrasions on vaginal walls. Thin polypus at os uteri.	Clitoris and nymphæ very small. Hymen ruptured.	Uterine polypus.	Yes.	Melan. (Ac.)	Hæmorrhoids. Has masturbated since childhood. Hallucinations of hearing people accuse her of being pregnant, and of having improper relations with "a black man." Goes about declaring her chastity.
74	52	M.	4	Climacteric passed.	.....	Left latero-version. Cervix congested. Abrasions on cervix, vagina, and near urethra.	Nymphæ enlarged. Perineum ruptured.	.....	.....	Melan. (Chr)	Hæmorrhoids.
75	39	S.	0	Regular.	.....	Normal position. Anterior lip larger. Cavity measures 2½ inches. Slight erosion.	Normal.	.....	.....	Mania (Chr)	Very ugly at menstrual periods.
76	54	M.	2	Climacteric passed.	.....	Extreme atrophy. Slight erosion.	Perineum ruptured.	.....	.....	Melan. (Chr)	Patient's mother and daughter were insane. Mania appeared after suppression of menses, and exacerbation always occur at those times. Menstrual blood scanty and almost black.
77	15	S.	0	Irregular and very scanty.	.....	Cavity 2½ inches. Thin cervix. Slight irritation about os.	Collection under hood of clitoris.	.....	.....	Mania (Ac.)	Thinks she is 4½ months pregnant. Says she has felt "life." Thinks that men visit her in the night.
78	44	M.	3	Irregular.	.....	Old adhesions about cervix.	Perineum ruptured.	Uterine polypus.	.....	Paranoia.	Attack followed menstrual suppression. Very profane and obscene. Says she is "God's wife," and has had twelve children. So resistive that examination was unsatisfactory.
79	37	S.	0	Regular.	.....	.....	Normal.	.....	.....	Mania (Rec.)	

Case.	Age.	Civil Condition.	No. of Children or Miscarriages.	MENSES.	Leucorrhoea.	UTERUS.	EXTERNAL GENITALIA.	Anomalies or New Growths.	Masturbation.	Mental Disorder.	REMARKS.
80	26	M.	5	Irregular.	.....	Retroversion. Uterus 2½ in. Bleeds easily.	Perineum ruptured.	.....	Yes.	Demen(Ter)	Hæmorrhoids. Obscene and indecent in manner to both men and women. Mother was insane. Menstrues were always irregular and attended with more or less mental disturbance. Blood was always black. Father and two brothers insane.
81	63	M.	3 c. 13 m.	Climacteric passed.	.....	Atrophy.	Nymphæ absent.	.....	.....	Mania (Ac.)	.....
82	30	M.	4	Regular.	.....	Retroversion. Cavity 2½ inches.	Normal.	.....	.....	Melan. (Ac.)	Suicidal.
83	33	S.	1	Regular.	.....	Normal.	Nymphæ hypertrophied. Collection under hood of clitoris. Perineum ruptured.	.....	Yes.	Demen(Ter)	Gave birth to an illegitimate child in this hospital three years ago. Mutilates and maltreats her own body.
84	44	M.	4	Irregular.	.....	Normal position. Cervix congested and unsymmetrical.	Normal.	.....	.....	Melan. (Ac.)	Suicidal.
85	28	S.	0	Irregular.	.....	Normal position.	Collection under hood of clitoris. Hymen intact.	.....	Yes.	Mania (Chr)	Violent and resistive. Examination unsatisfactory. Father insane.
86	25	S.	0	Regular.	Yes.	Uterus very small.	Perineum ruptured.	.....	.....	Melan. (Ac.)	Did not use speculum.
87	45	M.	3	Amenorrhœa.	.....	Normal position. Cervix congested. Measures 2½ inches.	Normal.	Uterine polypus.	.....	Mania (Ac.)	Very resistive. Suicidal. Mother and maternal uncle insane.
88	44	M.	2	Irregular.	.....	Retroversion. Left latero-version.	Normal.	.....	Yes.	Mania (Chr)	Very resistive. More excited at menses. Body covered with a growth of long, thick, black hair. Very obscene. Delusions of being violated in the night.
89	38	M.	0	Regular.	Yes.	Retroversion. Normal size and position.	Perineum ruptured.	Uterine polypus.	.....	Mania (Chr)	Obscene and violent. Attack followed nine weeks after parturition. Mother and maternal uncle insane.
90	30	S.	0	Climacteric passed.	.....	Normal.	Nymphæ enlarged. Perineum ruptured.	.....	Yes.	Mania (Chr)	.....
91	54	M.	5	Regular.	.....	.....	Collection under hood of clitoris. Vulvitis.	Urethral caruncle.	.....	Melan. (Chr)	Scybala in rectum. Obscene and profane.
92	26	M.	2	Regular.	.....	Atrophy.	.....	.....	.....	Melan. (Chr)	Scybala in rectum.
93	60	M.	.....	Climacteric passed.	.....	.....	.....	.....	Yes.	Mania (Chr)	Ovariotomy several years ago. Large hernia in hypogastric region.
94	46	S.	0	Climacteric passed.	.....	Latero-version. Cervicitis and vaginitis.	.....	.....	.....	Mania (Chr)	Aggravation at menses very marked. Says she is "God's wife" and "Raphael's consort."
95	42	M.	1	Irregular.	Profuse	Slight erosion.	Hymen easily distended.	.....	Yes.	Mania (Rec.)	More hysterical at menses.
96	23	S.	0	Regular.	Profuse	Retroversion. Cavity 2½ inches.	Perineum ruptured.	.....	.....	Melan. (Chr)	.....
97	35	M.	1	Regular.	.....	Atrophy.	Very small.	.....	.....	Melan. (Chr)	.....
98	47	S.	0	Climacteric passed.	.....	.....	Hymen intact.	.....	.....	Imbecility.	.....
99	62	S.	0	Climacteric passed.	Profuse and offensive.	Small, pointed cervix.	.....	.....	.....	Demen(Ter)	.....
100	51	M.	5	Climacteric passed.	Uterus high in pelvis.	Normal.

CHLOROBROM AS A HYPNOTIC IN THE INSANE.*

BY J. PERCY WADE, M. D.,

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Chlorobrom, a mixture of equal parts of potassium bromide and chloralamid dissolved in water, was first introduced to the medical profession by Professor Charteris of Glasgow, a little over a year ago.

The term chlorobrom is an arbitrary drug term that has the sound of giving to a mere mixture the dignity that pertains to a chemical compound, and Doctor Charteris was severely criticised for endeavoring to popularize it.

The remedy is a mixture of the simplest description, and, according to the formula given, contains thirty grains each of chloralamid and potassium bromide to the ounce of water.

The solution was first used by Doctor Charteris for the prevention and alleviation of sea-sickness, for which it is said to be an excellent remedy—relieving the disagreeable symptoms by its hypnotic action. Doctor Keay, acting upon the latter suggestion, was the first, I believe, to employ the drug in the treatment of mental diseases.

Upon the action of the two drugs separately it is hardly worth while to comment.

As is well known, potassium bromide acts as a sedative to the spinal cord and as a depressant of the motor and intellectual portion of the brain, and is also a depressant of the circulatory system. (Hare, p. 87.)

Chloralamid is prepared by a patented process by a combination of two parts chloral hydrate and one part formamide. (Shoemaker, p. 531.)

The drug is said to have less action upon the heart and blood vessels than chloral. The combination, although a depressant to the circulation and heart, is probably less so than the bromides or other allied drugs. It is less disagreeable to take than paraldehyde, which, although a safe and reliable hypnotic, can not be disguised when taken, has an objectionable odor, and imparts to the breath a strong scent. Paraldehyde is often followed by lassitude, headache, or sickness in the morning. Chlorobrom, on the other hand, is not particularly disagreeable to take, and leaves no ill after-effects, and caused in none of the cases any derangement of the stomach or bowels.

*Read before the Baltimore Neurological Society.

Doctor Keay (*Lancet*, March 18, 1893) has used the drug with favorable results, and he recommends it highly in melancholia, especially active melancholia, and in the threatened melancholia, or brain exhaustion from overwork, and in worried business men, when insomnia is the most serious symptom to combat. In mania, general paresis, and the excitement of epilepsy he has found the drug not suitable, preferring sulphonal or trional. He administers one ounce of the solution one hour before retiring, and if the excitement is great he increases the dose to one and a half or two ounces with perfect safety.

As to the time required for the drug to act, it is probably longer than paraldehyde or sulphonal, in mania being about three-fourths of an hour to produce sleep, and in melancholia one hour after administration. The sleep is quiet, undisturbed, and peaceful, lasting, on an average, five and one-half hours — the longest period of sleep being nine and one-half and the shortest three hours in duration.

In none of the administrations were any bad after-effects complained of, nor were there any derangements of the stomach or bowels. In one case of acute mania, who was noisy and talkative at night, refusing to remain in bed or keep the coverings on, a dose of paraldehyde was given, which was immediately vomited. After the vomiting had subsided an ounce of chlorobrom was tried and retained on the stomach. She was quiet in fifteen minutes and asleep in forty-five minutes, and remained so for four hours. In another case of melancholia, such drugs as sulphonal and paraldehyde were vomited, but the chlorobrom was retained and acted nicely without any derangement of the intestinal tract. One case of recurrent mania, in which the patient remained disagreeable, quarrelsome, and at times talkative, with an inability to sleep, chlorobrom was administered with excellent results, and has apparently reduced the length of the attack. Her former attacks, when paraldehyde was given, extended over a period of four months, while the duration of a recent attack, under the use of chlorobrom, has been only one and a half months. The patient herself stated that the chlorobrom had much better effect in quieting her than any drug that had been formerly used, and that no bad after-effects followed its use.

In the report of Doctor Keay's cases, he found the drug to be most beneficial in melancholia and similar mental states, particularly active melancholia, and to be of little use in the excitement of mania and epilepsy. Our experience with the drug proved its value in simple melancholia, but it failed to act in active melancholia. In

only one case of the latter disorder was opportunity afforded to employ the mixture. One and a half ounces were given without quieting the patient, whereas fifteen grains of trional produced sleep in thirty minutes.

In acute mania it was found to quiet and produce sleep in spite of Doctor Keay's contradictory statement, although taking somewhat longer to act, the sleep being as long and refreshing as that produced by other hypnotics.

The drug was administered ninety-six times to sixteen patients, including three cases of acute mania, three cases of melancholia, seven cases of dementia, one each of active melancholia, epilepsy, and periodic mania. The dose was one ounce as a rule, and was found to be sufficient to produce sleep in most cases.

In the cases of acute mania, one was very talkative and noisy at night. The other two cases were of a milder character, who, although not noisy, talked to themselves and disturbed the other patients on the hall. In all three cases the drug produced sleep on an average of three-quarters of an hour after administration, and continued six hours. The drug was not used over six times in each case, after which the patient quieted down and required no further use of any hypnotics.

In three cases of melancholia it was employed with excellent results. Two were cases of simple melancholia with delusions; the third a case of chronic melancholia, who refused to go to bed until some medicine was given. Heretofore when sulphonal or paraldehyde were used, it was necessary to administer some quieting draught during the day, but since she has taken the chlorobrom this has not been necessary.

In seven cases of dementia, who, while not continuously requiring some sleeping medicine, occasionally became noisy during the night, the drug did not fail to produce the desired result in a single case.

It was employed in one case of insomnia following epilepsy. The patient had not previously been on the bromide treatment, and I thus account for its favorable action in this special case.

I have not been able to test the drug in cases of general paresis. There seems to be some doubt as to its action in that disease.

In conclusion, I think it justifiable to state, in the words of Doctor Keay, that we have one safe and reliable addition to our already too small list of hypnotics; that it is most favorable in melancholia, especially of the milder type, and that in acute mania its action is fully as reliable and lasting as any other hypnotic we possess.

THE BLOOD IN THE INSANE.

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In this paper we have attempted to show the condition of the blood in several forms of insanity, with particular reference to the leucocytes as seen in specimens stained with Ehrlich's triple stain. In preparing these specimens we have used the "heat" method in fixing the blood on the cover glasses at a temperature of about 120° C., then staining and mounting them in the ordinary way. Besides this, we have used, as a means of comparison, Doctor Gowers' instruments in estimating the hæmoglobin and number of red and white discs. In some cases, owing to the active form of the insanity, it was impossible to use these instruments, and in such cases we have left the table blank.

The cases consist of three of senile dementia, four of general paralysis, one of Graves' disease, one of chronic mania, one of katonnia, one of acute mania, two of stuporous melancholia, and one of acute melancholia.

Case No. 1574, female, æt. 84; a case of senile dementia. She was admitted to this hospital March 29, 1894. She had been an inmate of an almshouse three years, and her insanity dated back of that time. On admission, patient was feeble and confused, but struggled and resisted the nurses. Physical examination revealed an irregular pulse and a cardiac murmur. At times she was quite violent, and made several assaults. Her appetite was fair, sleep irregular. From August 24th to October 20th she remained in bed on the sick ward, and was quite feeble. On October 30th she pushed an excitable epileptic patient, was thrown down and sustained an intra-capsular fracture of the right femur. She rapidly failed, and died November 6, 1894.

On November 2d a specimen of her blood was stained with Ehrlich's triple stain, and on November 6th another specimen, obtained four hours after death, was stained, and in both cases only a few polynuclear neutrophiles were found. Hæmoglobin, 90 per cent.; red corpuscles, 4,050,000; white corpuscles, 7,000.

Case No. 1836, female, æt. 96; a case of senile dementia. She was admitted to this hospital October 16, 1894. No history accompanied the patient, except that she had been insane about one year.

On admission she was very feeble and exhausted from the journey, and remained in bed for about two weeks. Since that time she has been able to sit on the ward during the day. She is quiet, and manifests no excitement. On examination of her blood were found a few eosinophiles, a normal number of lymphocytes, and a great abundance of polynuclear neutrophiles. Gowers' instruments showed hæmoglobin 80 per cent.; red discs, 4,170,000; white discs, 13,000. (See Fig. 2, Plate VI.)

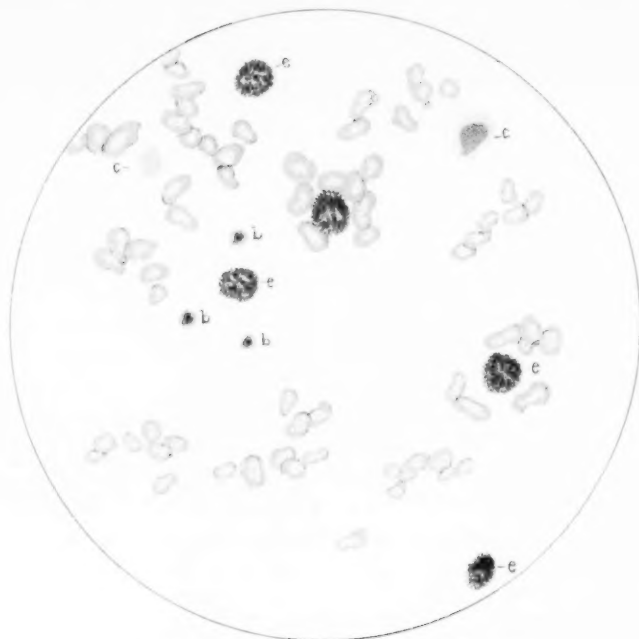
Case No. 1777, female, æt. 80; admitted August 6, 1894. She is a case of senile dementia, and it is alleged that forced abstinence from liquor and opium has hastened the mental failure. She had been insane one month when admitted to the hospital. On admission she presented the general appearance of advanced age, was small and shriveled, and when addressed was confused and suspicious, but quite active. Physical examination revealed no gross organic lesions beyond those incident upon old age. Until September 11th she was dressed and remained fairly quiet on the ward. On that date she refused her food, and as she was quite feeble, was placed in bed, where she has remained since that time. Early in October she became so restless and confused that she was rapidly losing strength. She was given hyoscin, grain 1-120 t. i. d., and soon became quiet, and has since been more comfortable.

The examination of her blood with Ehrlich's stain revealed many lymphocytes and a great abundance of polynuclear neutrophiles; hæmoglobin, 75 per cent.; red corpuscles, 5,000,000; white corpuscles, 20,000.

Case No. 1196, female, æt. 39; single, nativity New York. She was admitted to this hospital December 1, 1893, suffering from an attack of acute melancholia of one week's duration. Previous to this time she had had periods, more or less well marked, of depression, but until November 25, 1893, had shown no symptoms of violence. Since her admission she has been quiet and contented most of the time, and at two different times has had parole of the hospital grounds. There have been, however, several periods of depression, each of these being preceded by periods of religious ecstasy. These periods are marked by intense excitement of a religious nature. Sometimes she believes she has committed some unpardonable sin; at others she will repeatedly shout "Praise be to God!" beginning on a low key, then rising higher and higher, then sinking again to a lower key.

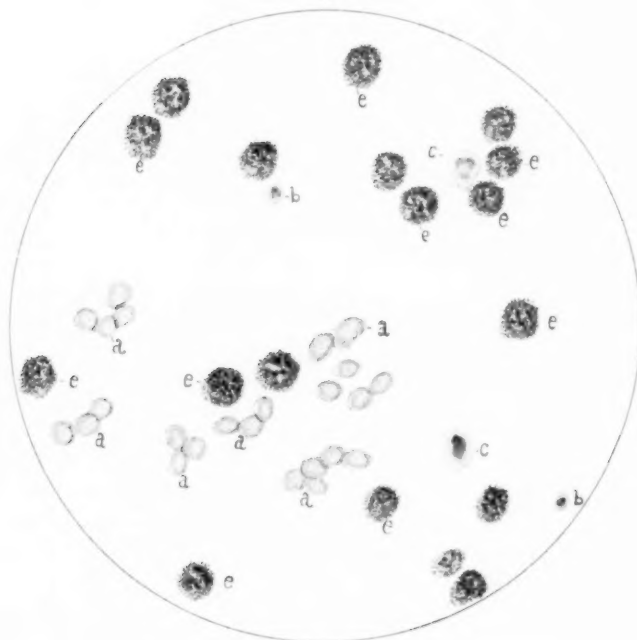
It was during one of these periods of excitement that her blood

Fig. 1.



Case No. 1819; Grave's disease.
a, red corpuscles; b, lymphocytes; c, mononuclear
neutrophils; e, polynuclear neutrophils.

Fig. 2.



Case No. 1848; general paralysis

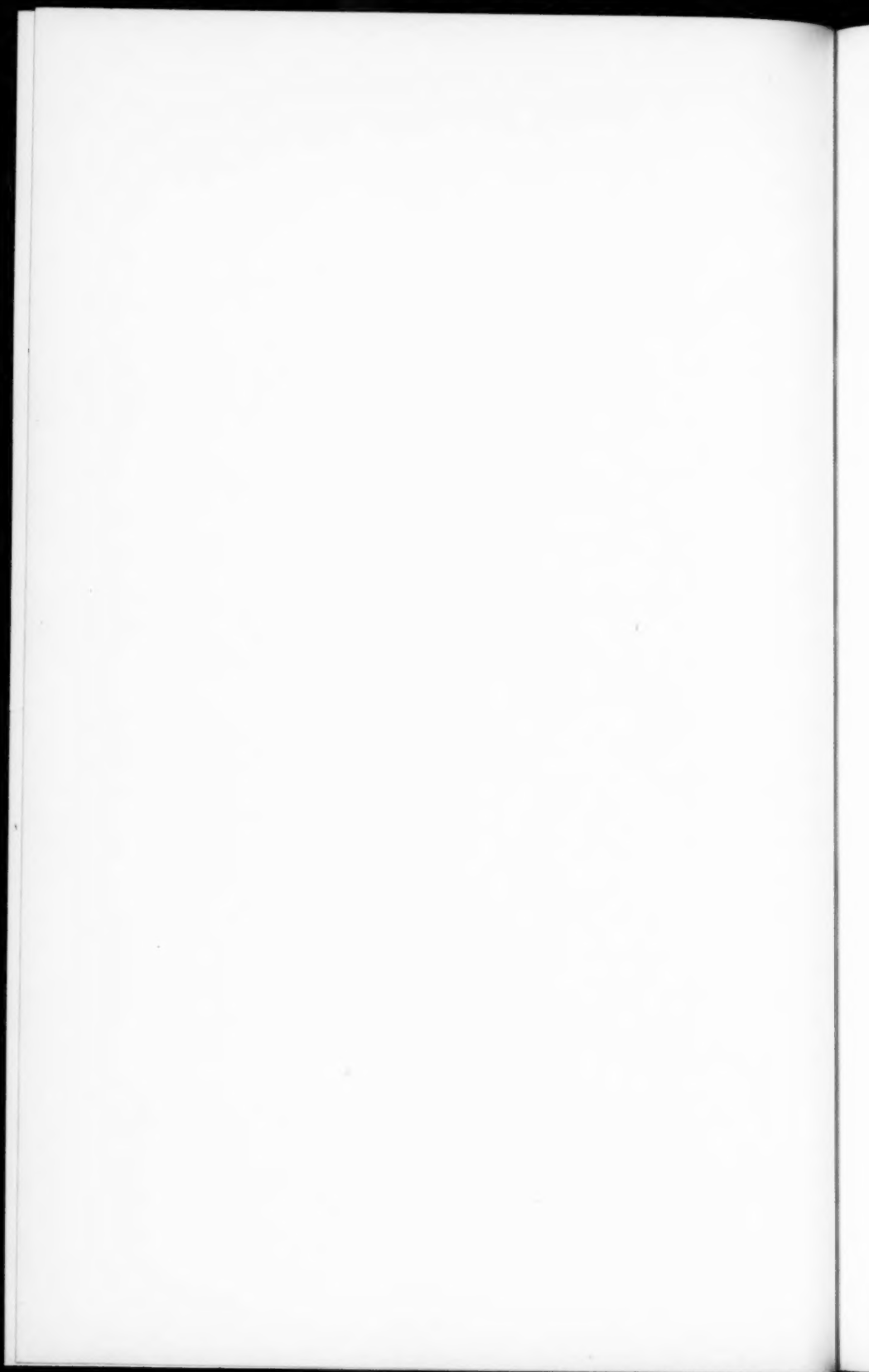
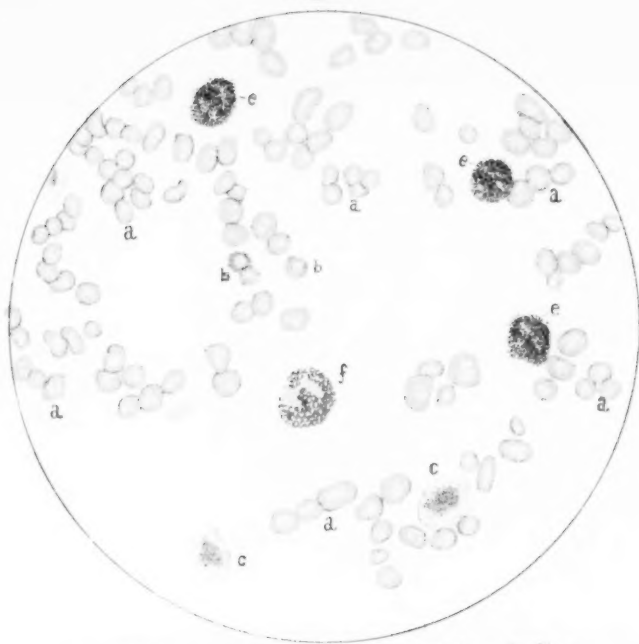
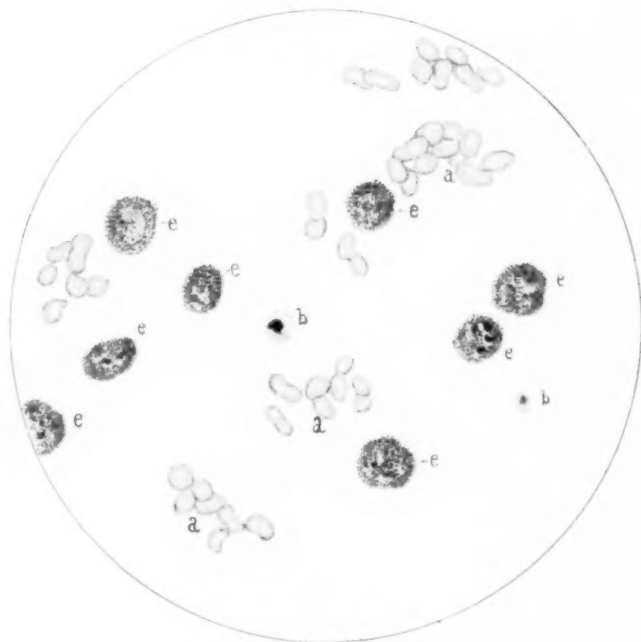


Fig. 1.

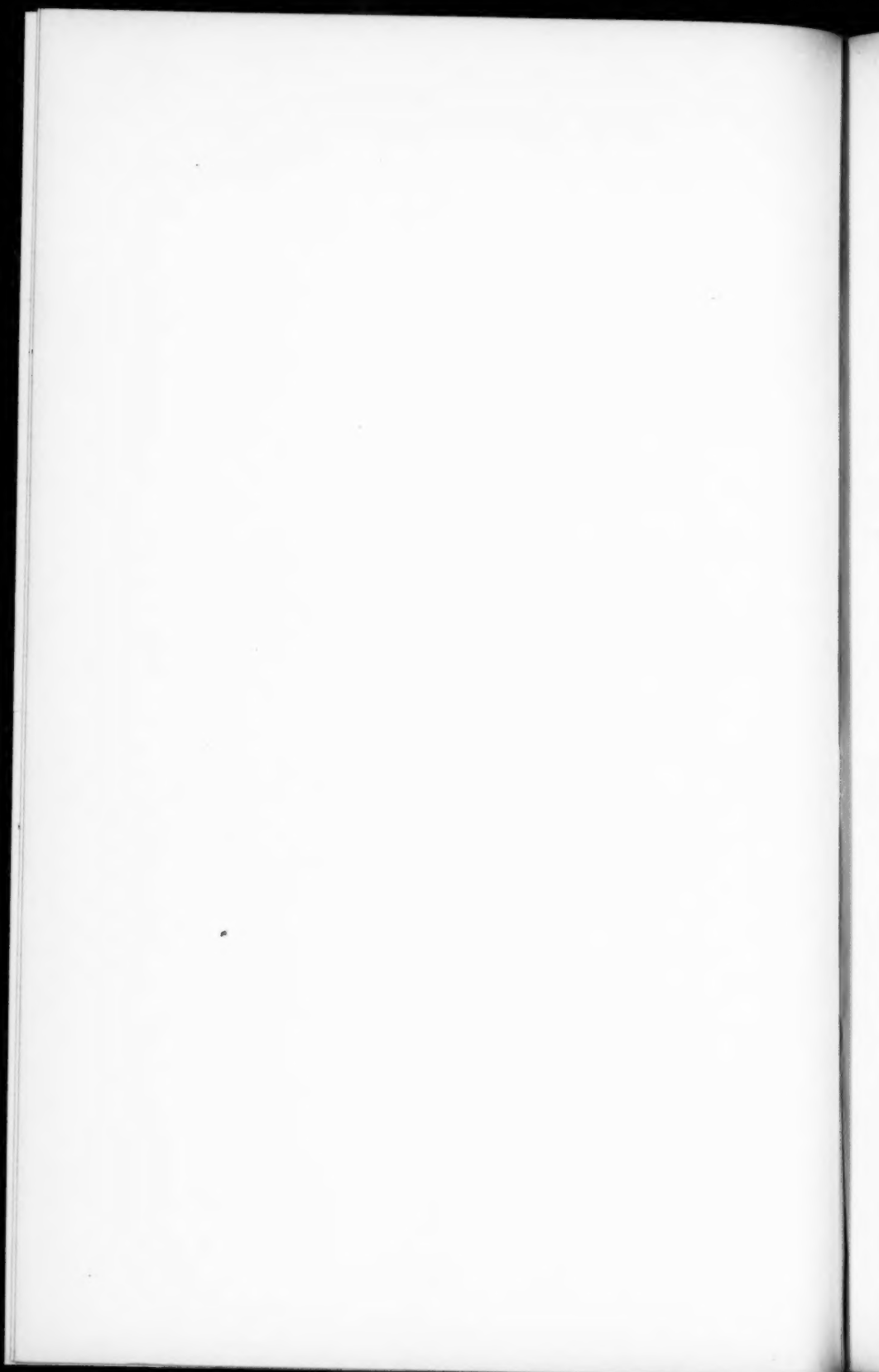


Case No. 1839. Stuporous melancholia;
a, red blood discs; b, lymphocytes; c, mononuclear
leucocytes; e, polynuclear neutrophils;
f, eosinophile.

Fig. 2.



Case No. 1836; Senile dementia.



was examined and there were found a few eosinophiles, a few lymphocytes, and an abundance of polynuclear neutrophiles.

Case No. 601, female, æt. 25, nativity New York. Case of katatonia. She was first admitted to this hospital March 16, 1891, in an attack of acute mania; was discharged recovered May 25, 1891. She was readmitted March 28, 1892, suffering from sub-acute melancholia. Since that time she has had periods of excitement, of depression, of stupor, and occasionally has conversed coherently. She has, also, had two or three periods of catalepsy, thus presenting a perfect picture of catatonia. She has a paternal uncle who is an idiot, and has two sisters insane.

The physician who sent her history wrote: "I saw the three (sisters) all crazy at once in the same house. It seemed to me epidemic. Each was very nervous, calling on God for help." On November 6, 1894, specimens of her blood were stained with Ehrlich's triple stain with the following results: An abundance of polynuclear neutrophiles and lymphocytes, and a few mononuclear neutrophiles.

On November 13, 1894, her blood was examined with Gowers' instruments with these results: Hæmoglobin, 65 per cent.; red discs, 4,410,000; white discs, 9,000. At the time of these examinations she had emerged from her cataleptic condition and was coming out of a stuporous condition, but she had a very poor circulation, and would not talk at all.

Case No. 1849, male, æt. 52; nativity Ireland; a case of general paralysis. He was admitted to this hospital November 3, 1894. His physical condition is feeble, though he is able to be up and on the ward most of the time. The duration of his insanity, according to the medical certificate, is two weeks prior to his admission, but his friends place it about three months. At present he is in an elated state or is silly, but before admission he had been violent and excited at times. Since admission he has been dull and confused; says he is going to go to Europe and take all his relatives. He is in the second stage of general paralysis, and thus far the course of his disease has been rapid. His blood, examined November 15, 1894, revealed a few eosinophiles, many lymphocytes, and a great abundance of polynuclear neutrophiles.

On November 26, 1894, his blood was examined with Gower's instruments, with these results: Hæmoglobin, 75 per cent.; red discs, 6,990,000; white discs, 13,000. (See Fig. 2, Plate V.)

Case No. 1835, colored, male, æt. 30; nativity United States; a case of general paralysis, third stage, and of rapid development.

He was admitted to this hospital October 12, 1894, in fair physical health. His insanity dated five months previous to his admission. Since November 10th he has been confined to his bed, as he became weak very suddenly and was unable to stand or move. At present he is very dull, rarely speaks, but is very apprehensive, and resists all attempts to care for him. He expresses no delusions of grandeur, but has feeling of well-being. Tremor of almost all muscles is well marked. Examination of his blood reveals lymphocytes and polynuclear neutrophiles in limited numbers.

One week later his blood was examined with Gowers' instruments, and there were found: Hæmoglobin, 65 per cent.; red discs, 5,260,000; white discs, 10,000.

Case No. 1818, male, æt. 52; nativity New York. He is a case of general paralysis, and is just entering the third stage of the disease. He was admitted to this hospital September 24, 1894, in strong physical condition, his insanity being of "two months or more" duration. Since his admission he has been quiet and cheerful, though of late very dull. He has had three light convulsions, and the specimens of his blood were obtained within an hour of one of these convulsions. In the specimens were found very few lymphocytes, polynuclear and mononuclear neutrophiles.

With Gowers' instruments were obtained hæmoglobin, 80 per cent.; red discs, 4,570,000; white discs, 9,000.

Case No. 1779, male æt. 40; married, nativity New York. He was admitted to this hospital August 8, 1894. He is a case of general paralysis of two years and a third duration, and is now in the third stage of the disease. The alleged cause of the trouble is "a fall from a barn." On admission he was happy and slightly elated. The medical certificate states that at times he was noisy and violent, but since his admission he has shown no signs of this, except slight irritability at times. Soon after admission he had one severe and several slight convulsions, and since then has remained in bed most of the time. At times he is able to sit up on the ward and believes he is perfectly well and strong. The course of his disease has been very slow, as compared with cases 1849 and 1835. The examination of his blood revealed few lymphocytes and mononuclear neutrophiles, and a greater number than normal of polynuclear neutrophiles.

On November 26th his blood was examined with Gowers' instruments, and there were found hæmoglobin, 72 per cent.; red discs, 3,960,000; white discs, 9,000.

Case No. 1839, female, æt. 37. A case of stuporous melancholia. She was admitted to this hospital October 19, 1894. Her attack was of two months' duration, and began with loss of memory, periods of nervousness, and loss of sleep. On admission she would look up when addressed, but could not be induced to answer questions. Her skin was sallow and dry, tongue parched, pulse feeble. She was placed in bed in charge of a special nurse, and given tonic treatment and liquid diet. Since admission, her appetite has improved and she is brighter, though still unable to converse very much. The treatment of this case is electricity, massage, and active tonics. Her blood specimens contained few eosinophiles and large mononuclear neutrophiles, and many lymphocytes and polynuclear neutrophiles. With Gowers' instruments were obtained hæmoglobin, 70 per cent.; red discs, 4,860,000; white discs, 11,000. (See Fig. 1, Plate VI.)

Case No. 1807, female, æt. 38, American, single. She was admitted to this hospital September 13, 1894, suffering from acute melancholia. Her history states that she attempted to commit suicide twice, once by drowning, and once by taking Paris green. This is her second attack of insanity, the first occurring fifteen years ago, and of two years' duration. As an etiological factor in this case, heredity plays a strong part, for her father and two sisters had been insane. On admission she was in feeble physical condition, was dull and depressed; soon after admission she became stuporous, refused food, and for six weeks was fed with a tube. At present she is taking an abundance of milk, and is much brighter under the tonic treatment, which includes electricity and massage. On November 6th, an examination of her blood was made, four slides being prepared, and there were found many polynuclear neutrophiles, and a great abundance of lymphocytes. One week later an attempt was made to examine her blood with Gowers' instruments, but she struggled so much and became so agitated that it was given up.

Case No. 357, æt. 60, married; nativity Vermont. She was first admitted to this hospital March 26, 1891, in a maniacal condition, and was discharged improved May 22, 1891. She was readmitted September 9, 1891, and has been in the hospital since that time. She is suffering from chronic parenchymatous nephritis, and has had several uræmic convulsions, the first and most severe one occurring October 25, 1891, and the last November 7, 1894. Albumen and casts have been present in abundance

in her urine at times, and at times entirely absent. Once she has attempted suicide, and has threatened to kill herself several times. Her delusions are those of persecution, and generally of a religious nature. She is quite anæmic, though in fair physical condition. April 2, 1894, her blood was examined with Gowers', and also Fleischl's, instruments, and gave the following results: Hæmoglobin, 52 per cent.; red corpuscles, 4,200,000.

November 7th she had a uræmic convulsion at 2 A. M.; her blood was stained at 9 A. M., and revealed an abundance of polynuclear neutrophiles and many lymphocytes. Her blood was examined with Gowers' instruments at 2 P. M., showing, hæmoglobin, 80 per cent.; red discs, 3,920,000; white discs, 12,000.

Case No. 1819, female, æt. 28; nativity Nova Scotia; married, and has one child. She was admitted to this hospital July 19, 1893, in an attack of acute mania of one week's duration. She is a typical case of Graves' disease.

The three cardinal symptoms — the acceleration of the pulse, the goitre, and exophthalmus — are well marked. Her pulse ranges from 120 to 140 beats per minute. The goitre is markedly soft and compressible, almost to the normal size of the thyroid gland. A distinct thrill can be felt by placing the hand on the tumor. The Von Graefe symptom is but partially developed. In addition to the acute mania there are other nervous symptoms, such as tremor and twitching of the muscles, especially those of the face, her sleeplessness, headaches, and general irritability. On admission she was very noisy, violent, and talked incessantly and incoherently. She slept very little, but took a fair amount of food. Gradually she became quieter, yet had periods of intense excitement, and at times was restrained in bed. Electricity was employed in the treatment of her goitre, but it failed to relieve it markedly. Early in February, 1894, she became much quieter, and was able to converse rationally. Her appetite was ravenous, and she improved in weight and strength. On May 7, 1894, she was discharged, recovered from her nervous symptoms, exophthalmic goitre unimproved.

On September 25, 1894, she was readmitted in a second attack of acute mania. It was a repetition of the first attack, with even more marked nervous symptoms. She was boisterous, laughed, shouted, and spit on her clothing. Since admission she has continued very disturbed, will keep no clothing on, and has made several sudden attacks on the nurses. Her appetite has been very good, but sleep very irregular.

On November 12, 1894, an attempt was made to examine her blood with Gowers' instruments, and also to get specimens for Ehrlich's stain. She became very much excited, and resisted all attempts to obtain the necessary drops. Finally, owing to her frenzied state, the attempt was given up, after securing specimens for the Ehrlich stain. On examining these there was found a large increase of eosinophiles, lymphocytes, and polynuclear neutrophiles. (See Fig. 1, Plate V.)

Case No. 1841, female, æt. 41; single; nativity New York. The diagnosis in her case is acute mania. She was first admitted to this hospital March 8, 1892, which she recovered and was discharged August 10, 1892. She was readmitted October 21, 1894, suffering from a second attack of acute mania of two weeks' duration. On admission she was quiet and seemed to realize her condition. Since then she has had several paroxysms of excitement and delusions of persecution and internal sensations, and at these times has made several impulsive assaults. Examination of her blood revealed eosinophiles slightly in excess; few lymphocytes, and an increase in polynuclear neutrophiles. With Gowers' instruments there were found hæmoglobin, 105 per cent.; red discs, 7,730,000; white discs, 22,000.

In studying these cases we have noticed the following conditions:

1. That in the cases of senile dementia, as a rule, there is an increase in leucocytes; while in the cases of general paralysis, with one exception, they are markedly decreased, as observed also by Roncoroni.
2. That in cases with a tendency to maniacal excitement the number of leucocytes is greatly increased.

CASE NUMBER.	FORM OF INSANITY.	EOSINOPHILES.	NEUTROPHILES.			HEMO- GLOBIN.	RED.	WHITE.	NUMBER SLIDES.
			LYMPHOCYTES.	MONO- NUCLEAR.	POLYNUCLEAR.				
1574	Senile-dementia	No	No	No	Few	90%	4,050,000	7,000	8
1836	Senile-dementia	Few	Yes	No	Abundant	80%	4,170,000	13,000	10
1777	Senile-dementia	No	Many	No	Abundant	75%	5,000,000	20,000	10
1196	Acute Melancholia	Few	Few	No	Abundant	65%	4,410,000	9,000	4
601	Katonia	No	Abundant	Few	Abundant	75%	6,990,000	13,000	4
1849	General paralysis	Few	Many	No	Very abundant	65%	5,260,000	10,000	4
1835	General paralysis	No	Few	No	Few	80%	4,570,000	9,000	4
1818	General paralysis	No	Few	Few	Few	72%	3,960,000	9,000	4
1779	General paralysis	No	Few	Many	Many	70%	4,860,000	11,000	4
1839	Stuporous melancholia	Few	Few	Many	Many	80%	3,920,000	12,000	4
1807	Acute melancholia	No	Very abundant	No	Very abundant	105%	7,730,000	22,000	4
357	Chronic mania	No	Many	No	Very abundant				
1819	Graves' disease	Abundant	Abundant	No	Very abundant				
1841	Acute mania	Increased	Few	No	Many				

THE INFLUENCE OF ACCIDENTAL MALADIES UPON THE COURSE OF INSANITY.

BY F. ST. JOHN BULLEN,
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The influence of bodily diseases, occurring in the course of insanity, upon the mental symptoms has been so often markedly beneficial that it has even suggested the possible efficacy of an artificially induced inflammatory state upon insane conditions. Hitherto no decided conclusion has been arrived at concerning the manner in which these physical ailments affect improvement upon the mind disorder, nor is there forthcoming a reason for the uncertainty of action manifested, since it must be admitted that the result of bodily maladies is by no means always beneficial to the insane state.

A survey of the literature of this subject shows a somewhat unexpected paucity of examples of the improvements in mental disorders affected by the oncome of a bodily illness. But one should hesitate to conclude from this that such instances have been few; it may be rather that they are so far from uncommon that being still, in a manner, on debatable ground as regards their mode of influence, only perfunctory notice has been given them as occurrences of casual interest. But in consideration of the undoubted and remarkable results which are at times achieved by these bodily disorders (be it in whatever percentage of cases), it becomes desirable, with the ever-increasing necessity to deal with the accumulation of insane persons, to study the *modus operandi* of all possible curative agencies.

Several years ago Doctor Clouston, describing cases of intercurrent disease in relation to insanity, boldly expressed his opinion that at some future day a mode of producing either local inflammation or controllable septic blood-poisoning would be devised, and that, by this method, attacks of acute mania might be cut short.

Counter-irritation, as a form of treatment, has been tried for very many years, in various forms, but always more or less in an empirical fashion. At different times its effects have been ascribed to metastasis, reflex irritation, or derivation and antiphlogistic powers. Undoubtedly it does possess valuable properties; this is more espec-

ially the case where the site of counter-irritation corresponds with the nervous distribution of the affected organ or part. Its mode of action can be conceived of, but for many reasons its inefficacy in conditions of insane excitement, etc., is as evident in theory as in fact.

In the *Journal of Mental Science* for April, 1893, Doctor Goodall contributes to our knowledge of the subject in hand. He begins by contrasting the effects of local and artificially-induced inflammations (e. g. blistering) with those of so-called idiopathic origin, or constitutional affections. In the former of these classes, a constitutional infection is only produced when bacteria have invaded the tissues through a lesion. Otherwise, the reaction will be merely due to the shock of dermal irritation, or to changes in secretion or excretion in the injured part, or remotely in some other region influenced by stimulation of the nerves supplying the site of irritation. In the latter class, by direct introduction by way of a gland follicle (as in the case of furuncle) or through a wound, organisms will have entered the system, and either they themselves or their toxins will be present in the circulation.

Goodall points out, and it is almost certainly correct, that the results of chemical irritation do not bear comparison with those of toxic origin, viewed in regard to their influence on mental disorder. Whether this influence be that of the toxins co-existing with the systemic disturbance, or whether it be the systemic disturbance itself, apart from the poisons arousing it, is debatable. It is probably due to the toxins, since systemic disorder, even febrile, induced by mere counter-irritation shows by no means a comparable influence.

The effect of introducing foreign and toxic matter into the system in cases of insanity will be modified by the following considerations :

1. Duration of insanity, and especially if it be a first attack. It will be at once apparent that improvement can only be expected where organic disease has made no grave ravages. Apropos of this, it would seem that many cases, to all appearance organic and irremediable, are capable of vast improvement, or even cure, provided too long a time has not elapsed since the onset. Doctor Clouston quotes an example in his text book, of prolonged mania, apparently merely functional, and leaving, on recovery, no signs of impaired mental integrity. Cases indeed frequently occur in which the immense improvement consequent on some fortuitous

stimulating agent suggests that certain processes, apparently quite hopeless as to arrest, consist essentially of lowered or perverted vital activity rather than of structural disease. Hence an unfavorable aspect should not deter us from essaying remedial measures.

2. Heredity. The chance of a temporary or permanent relief will, in large measure, be proportionate to the evidence of heredity. Needless to say little can be done to remove prenatal influence upon the nervous organization, and in making a prognosis this must be taken into account, as is usual.

3. Condition of general health. The importance of bodily well-being is considerable, as any defective resisting power, such, for example, as is involved in the pyrexial state, increases the potency of the toxins introduced. Again, the presence or absence of any pathogenic bacteria in the blood will modify results.

4. Nature of bacteria or toxins introduced. It is only necessary to mention that results will be modified by their specific nature, and by their specific resisting power to hostile agencies in the body, and also upon the nutrient supplies available. The effect of an intercurrent illness on mental disorder may depend upon (a) changes induced by pyrexia; (b) bacteria themselves; (c) intrabacillary toxins, as in fever of paludism; (d) extra-bacillary toxins, as in scarlatina; (e) by toxins of body, temporarily produced in greater quantity to neutralize poisons from without; (f) temporarily retained toxins on account of perverted functional nerve control.

That heightened temperature alone causes improvement is unlikely. Apart from any toxic invasion its effects are mainly tachycardia, insomnia, restlessness, and hebetude. Pyrexia, together with bacterial toxins, produce more marked results. These may be in consequence of increased activity of tissue metabolism and the more vigorous output of waste material; in fact a general stimulation of jaded function—or, if the condition removed by the intercurrent disease be due to bacteria or their toxins, the fresh introduction of these may act in the following ways:

(1) By their greater vigor they may exhaust the pabulum of those bacteria already existing in the body. According to Hügge, the pathogenic forms, especially, die rapidly when saprophytic fungi have established themselves on the same nutrient medium, probably from the products of tissue change in the saprophytes exercising a poisonous action on the other organisms; for it is only

needful that a single necessary material should be exhausted to lead to a period of rest. Again, the introduced toxines may in some way neutralize those which are already circulating.

(2) The invading toxines may awaken in the organism an increased power of resistance, whether this be by provoking increased reaction in cell protoplasm or after the manner described by Metschnikoff, or the bacteria may evolve products fatal to other bacteria as to themselves. Hügge, in describing the inhibitory influences acting upon the development of micro-organisms, says: "Their power in producing disease may also be influenced by trivial alterations in the conditions of life, and may even be temporarily removed; and it would be a matter of great interest to learn more accurately the various means — for example, small doses of specific poisons, alterations in temperature, etc.—by the employment of which we might be able, for a certain time, to neutralize the superiority of the pathogenic bacteria over the cells of the animal body."

Recently, Emmerich, with some others, investigated the effects of the germ filtrate from cases of erysipelas upon malignant growths (lupus, carcinoma, sarcoma). And this was done because former experience had shown that these tumors often improved in a remarkable manner or entirely disappeared after the patient's recovery from an accidental attack of erysipelas. Emmerich states that tuberculosis, syphilis, and diphtheria may also be benefited by erysipelas serum, and that even anthrax bacilli disintegrate after injection of the germ-free filtrate. Apparently other organisms, such as bac-pyocyaneus and the pneumo-bacillus of Friedlander, exercise a similar, though less marked, inhibitory influence on the course of a case of anthrax. Whatever be the mode of action, it seems that the introduction of certain toxines is beneficial in counteracting some existing disorders of bacterial origin. Again, some of those bodily diseases which have a bacillary basis appear to exercise a very favorable influence upon certain forms of insanity. Does this then indicate, on the one hand, the treatment of these kinds of mental disorder, and, on the other, their pathology? Doctor Clouston's opinion concerning the first query has been already quoted, and Doctor Goodall has essayed a practical experiment in one case. Such trials, of course, are surrounded by special difficulties, which are discussed by the later author.

The pathology of those cases of insanity in which amelioration or cure result from intercurrent affections, needs the most careful consideration. As previously stated, mere pyrexia will not produce

these results any more certainly than a pure irritant, such as turpentine, will affect suppuration. There must be an organism or its toxine present. Pain from localized irritation, it is true, may produce a very marked result. Thus it is in my experience that a maniacal general paralytic, whose troublesome propensities nothing could check, became quiet and rational in behavior when he sustained a fracture. This patient ultimately recovered sufficiently to be discharged from the asylum. Little or no febrile disturbance existed in this case. I suppose that pain may act by directing the diffused or involuntary attention of the patient into the narrower channel concerned in the contemplation of one absorbing sensation; besides bringing to the fore those deeper-seated feelings connected with self-preservation, which for the time usurp all others. But methods having for a basis the production of counter-irritation, such as the use of blisters, cauterly, etc., have received ample trial, and have been found, for the most part, inefficient. And it is doubtful whether any result, in the majority of cases, would have a duration outlasting that of the stimulus applied. As we have seen, amongst the applications of "erysipelas salutare" mention has been made of its undoubtedly beneficial action, whether arising accidentally or by inoculation, in cases of malignant disease. It would seem difficult to understand the mode by which the improvement or disappearance of tumors can be effected. It may be by (1) modifying the perverted growth and nutrition of the neoplasm, or (2) by counteracting the influence of bacteria or of their toxines.

Recently, Van Niessen claims to have discovered a new organism in cancer, which he considers originates the disease. Supposing this to exist, until more of its nature is known it still can not be decided whether the destruction of the organism be dependent upon the introduction of the erysipelas virus. If this should be so, the influence must be of a general kind, since the beneficial effects seem to be extended to other varieties of malignant action, and also to syphilis, tuberculosis, and anthrax. Hence one would rather conclude that the erysipelas organism or toxine must exercise a controlling effect by (1) directly destroying existent bacteria; (2) absorbing nutrient medium; (3) producing a condition of medium which indirectly attenuates, destroys, or hinders the development of bacteria; (4) exciting cell protoplasm to a more vigorous resistance.

Departing, for the moment, from the territory of insanity, we find a curious instance of the beneficial result arising from the

introduction of an animal virus in epilepsy. Lannois records the cases of three children who underwent inoculation at the Pasteur Institute, with attenuated rabies poison. In all, the epileptic seizures disappeared permanently.

Thus far no mention, other than by inference, has been made of the possible bacterial basis of some forms of insanity. Even now, however, we may find some suggestive points for notice in this respect. Rasori (Central, f. Bact. XIV. B., No. 16) claims to have found an organism in acute delirious mania, both in the subarachnoid fluid, and also between the cortical elements. Goodall, in the paper already cited, suggests that hæmatoma auris in the insane may be due to some organism; subsequently appeared Pellizi's account of five cases of othæmatoma, in which a coccus was found. In a later paper (J. M. Sci., Oct., '94) Goodall adds further testimony to this. This ear affection is known to occur with a special frequency, and still further suggests what I have before indicated, that the apoplectic form or congestive seizures, so called, happening in the course of G. P., may in some cases be due to microbic action.* Chaumemesse has described attacks of hemiplegia and aphasia, occurring during acute pneumonia (as in many toxic and infectious diseases). These he refers to either direct action of microbes on the nerve centers or to contraction of the sylvian vessels produced by them.

From the standpoint of organic chemistry there exists an ever-growing mass of evidence of the presence of toxic substances, abnormal either as regards kind or amount, in some forms of insanity. These, though not necessarily produced by bacteria, are perhaps to be combatted by some measures of an anti-toxic nature. It may be that vegetable alkaloids, and even mineral poisons, can act as substitutes for animal toxins. Rummo has shown that strychnine is able to immunize guinea-pigs against tetanus culture. Further, Ehrlich has asserted that this immunity is in some degree transmissible to the offspring of the animals experimented upon.

Some reasons for the occasional ineffective operation of bodily ailments upon mental disorders have been offered. As yet no careful tabulation of cases has been drawn up in a systematic fashion. Several authors have noted cases in which improvement has occurred, but, so far as I know, there has been no comparative record of those in which it has not. To obtain results of any value in this investigation it is obvious that, in an asylum, all cases of pyrexia, or

*Review of Toxic Theory of Insanity. B. M. Assoc., 1894.

boils, or carbuncles, abscesses, lymphangitis, etc., should be noted, especially in connection with any change in the mental state. From such observations would also appear the organisms or toxins most commonly or effectively influencing mental disorders, since the former, quite apart from any specific virulence, may be found to have important action on the latter. And moreover there might appear evidence of a definite relationship betwixt certain mental states and some animal poisons, which would guide us in experimental work in the future. I have purposely omitted to quote existing literature on the subject of this paper, since in the absence of a definite scheme comprising "control" cases, much of its value is not estimable. I think that the matter is of sufficient interest to demand careful noting of its various phases. In a short time, were a systematic scheme in practice, more positive data would accrue than we have at present. Above all it would be important for men engaged in lunacy work to apply a knowledge of bacteriology, chemical and microscopical, to the elucidation of the problems connected with the influence of intercurrent, pyrexial, and toxic maladies on mental disorders.

INTRODUCTION OF AN ARTIFICIAL TESTICLE, AND RELIEF OF MORBID MENTAL STATE IN A MONO-CRYPTORCHID.

BY E. M. HERMANCE, M. D.,

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Late in the fall of 1885, a young man, Mr. K——, called to consult me. He was twenty-one years of age, and apparently in good physical condition. Upon inquiry as to the nature of his complaint, he stated that he had only one testicle; that his condition had always been as at present, and that it had always been a source of annoyance and regret to him, even as a child, and that lately it had preyed so upon his mind that he could not rest, and was very anxious that something should be done to remedy this physical defect. Upon examination I found that the left testicle had never descended into the scrotum, but in other respects the parts were in a perfectly normal condition. I explained the situation to him, and informed him that it would be impossible to do an operation to remedy this congenital deficiency, and advised him not to think anything more about it. I supposed it was the last I should hear from him, but in a few nights he again appeared, and in a confidential moment told me that he desired to get married, but had determined not to do so until he was in the same physical condition as other men, and, to make a long story short, he continued to come every few evenings, until I discovered that I had a case of mental disorder to deal with. He had a morbid imagination that he could not have children with one testicle, and was rapidly getting into a condition of mental depression. This became a fixed idea with him, and his morbid introspection was rapidly bringing him into a condition of fancied misery which demanded relief in some form, for I believe that in this case, had someone not taken the pains to encourage the patient to hope for what he desired so earnestly, a train of disastrous mental results might have followed the moral collapse which would surely have been consequent upon the bitter disappointment of refusing to help him; moreover, he had at last aroused not only my interest in his case from a scientific standpoint, but had also succeeded in arousing my sympathy. I therefore asked his permission to have a consultation, and Doctor Harrington very kindly saw the case with me. In the face of the foregoing

history, after carefully discussing the case, we decided to make the effort to return the testicle to the scrotum. We anæsthetized the patient, and after prolonged efforts, using all the force we thought we were justified in using, we gave it up as an impossibility.

I informed my patient of the result of our efforts and he said at once: "Why can not you introduce an artificial one?" I told him I would consider the matter. Again Doctor Harrington and I talked over the case, and finally decided to grant his request. Doctor Harrington made a model of a testicle, using a raw potato for the purpose; it was as near the shape and size of a normal testicle as we could make it. He then took this to Reynders and had a silver one made exactly like it, and in the following month (February, 1886), with the assistance of Doctor Harrington, I operated. The patient was put to bed, anæsthetized, and I then made an incision about $2\frac{1}{2}$ inches in length, upon the dorsal side of the scrotum; the tunica vaginalis was opened and stretched until the opening was large enough to admit the testicle, which was then introduced, and the wound closed and dressed antiseptically. The operation was not complex; the wound healed by first intention, and five days later the stitches were removed and the patient got up and went to business. He has worn that testicle from that day to this with a contented mind, and I believe he is somewhat proud of his virile powers, for I have since that time attended his wife twice in confinement.

At the time of this operation both Doctor Harrington and myself endeavored to find some record of a similar case, but we could not do so. Since that time, however, two cases have been reported. One in the May (1894) number of the *American Medico-Surgical Bulletin*, by Dr. Ramon Guiteras. In this case the operation was performed to fill the space caused by the removal of the patient's left testicle some years before. In this case the testicle was made of celluloid.

In the *Medical Record*, August 11, 1894, Dr. Robert F. Weir reports a case. In this case also the operation was made to replace a testicle which, being tubercular, had been removed; he also used celluloid.

SOME MINOR STUDIES IN NERVE CELL DEGENERATION AS PRESENTED BY A CASE OF LOCALIZED CEREBRAL ATROPHY.

BY THOMAS P. PROUT, M. D.

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The case, P. C. H., age forty, admitted to the New Jersey State Hospital at Morris Plains, July 28, 1892, was that of an epileptic of nine years standing at the time of his admission. His epileptic seizures were of very severe nature, but general in character, occurring at long intervals and with unfailing regularity up to the time of his death, which took place on the morning of November 22, 1894. He died during a severe epileptic seizure.

The autopsy showed a condition of considerable interest, from the records of which the following is an abstract: The dura mater presented on the left side several irregular calcareous plates varying in size, but covering a considerable portion of that side of the brain. In the circle of Willis there was no posterior communicating artery found on the right side. There was marked difference in the size of the two hemispheres, the left being much the smaller and also much contracted anteriorly and posteriorly. Certain of the convolutions over the whole brain surface, but especially on the left side, seemed almost obliterated. These atrophied areas involved especially the convolutions of the left occipital region and a smaller portion of the frontal areas of both sides, with markedly atrophied areas of less extent in other portions of the brain. The motor areas remained uninvolved. The convolutions in the sclerosed portions were in some instances so markedly atrophied as to have almost disappeared from the brain surface. In most instances, however, they showed fairly well. The outermost portions of these convolutions were of diminished consistence, the underlying brain substance being unusually firm and dense.

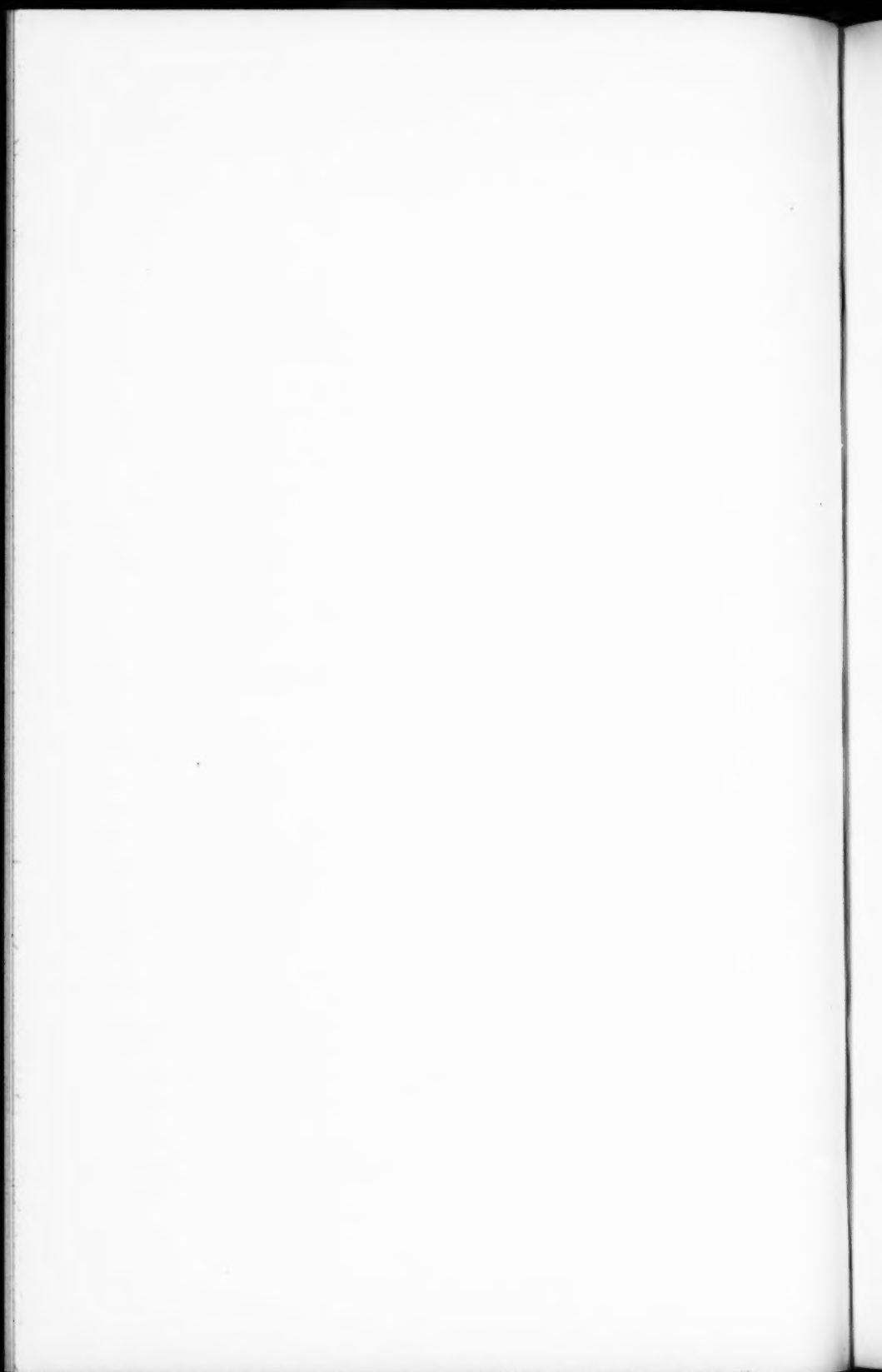
The purport of this paper is particularly to discuss some of the conditions presented by the nervous elements of the cortex in both the atrophied and unatrophied areas. Before beginning this study, however, some considerations in regard to the normal nerve cell will not be out of place.*

* The methods used in these investigations were the methylene blue processes, particularly the one described by Nissl. Besides this the brain was also stained and studied in the fresh state (Bevan Lewis) as well as after having been hardened in the usual way. For the most part, however, the methylene blue processes will be the only ones considered.



EXPLANATION OF PLATE.

- Fig. 1. Normal nerve cells — third layer, frontal region.
 Fig. 2. Normal nerve cells — second layer, frontal region.
 Fig. 3. Destruction of chromatin. *a*. Nucleus stained. *b*. Nucleus apparently absent. (Third layer.)
 Fig. 4. Chromatin nearly all destroyed. Nucleus stained and irregular. Dilated pericellular lymph space.
 Fig. 5. Absence of chromatin from cells. Poorly defined nuclei.
 Fig. 6. Irregular nucleus. (Sclerosed area.)
 Fig. 7. Granular cells. Poorly defined nuclei. *a*. Irregular nucleolus. *b*. Absence of nucleolus.
 Fig. 8. Granular cell. Swollen and granular nucleus.
 All outlines made by aid of Abbe camera lucida.
 Zeiss oil immersion, objective 1-12. Achromatic ocular No. 1.
 Drawings all made from sections stained after Nissl.



At the outset, then, what may we consider a normal nerve cell, and in what does it consist? This brings us face to face with the problems of so much importance at the present time—those of rest and fatigue and their bearing upon the nerve cell. We shall consider a nerve cell normal which has not been subjected to diseased conditions, such as insanity, acute disease, long-continued wasting disease, disturbance of cerebral circulation or pressure. This leaves out of account then the subject of normal physiological fatigue, and we may pass to the next part of the question, namely: In what does the normal nerve consist?

In Fig. 1 we present two ganglion cells from the third layer of the human brain, which present, aside from possible evidence of fatigue, a normal condition. In these cells the nucleus remains absolutely unstained by mythelene blue and perfectly regular in outline, while the nucleolus stands out prominently near the central portion as a regularly rounded, deeply-stained body. The body of the cell is covered rather irregularly with deeply-stained masses, some of a spindle shape, others irregular in outline, and many of which show a tendency to gather in the peripheral portion of the cell body. The outline of the cell is perfectly clear and distinct in every instance, and the processes, as far as they can be traced, show these spindle-shaped masses. In Fig. 2 are shown several cells from the second layer which present a similar condition. In these cells, however, the granules of chromatin are none of them spindle-shaped, and they show a marked tendency to remain about the nucleus, and in every instance we find a clump of granules on the circumference of the nucleus and in the larger process of the cell. The nucleolus of these cells is often situated eccentrically. These, then, we will consider normal nerve cells, and I may add that the drawings were made from sections of the brain of a man in health who was killed accidentally. He lived six hours after the accident, but was entirely unconscious. The autopsy was done eight hours after death and the brain tissue was immediately placed in absolute alcohol. The nerve cells, no doubt, show evidence of fatigue, in that the granules of chromatin show such a marked tendency to gather in the peripheral portion of the cell in the large ganglion cells, and are so much scattered about the circumference of the nucleus in the small cells. The fatigue, however, did not reach beyond the physiological limit.

We may now quite consistently pass to a consideration of the case in hand.

In sections from the non-sclerosed areas stained in the fresh state the nerve cells were not only seen to be apparently diminished in number, but the outline of almost every cell was very irregular and the nucleus was very deeply stained. Vacuoles in the protoplasm of the nerve cell were very common, and almost every cell presented an extensive deposit of pigment, while free pigment granules were scattered promiscuously through the section. In the sclerosed areas these conditions were far more pronounced. Here the deposits of pigment reached the extreme degree, the number of the nerve cells were greatly reduced, and the few that remained gave evidence of disease. Scattered throughout the cortex were an immense number of bright shining droplets of colloid material.

Stained after Nissl the nerve cell presented some unusual appearances. In nearly all of the cells the granules of chromatin, when present, were scattered into the peripheral portion of the body of the cell, leaving the central portion entirely clear; in addition to this change these granules were often reduced to a dust-like consistence. This condition is fairly shown in Fig. 3. Here the granules of chromatin are not only scattered into the peripheral portion of the cell, but large portions are apparently breaking down, and so impart a homogeneous coloring to a considerable portion of the body of the cell. This condition was quite frequent. The staining of the nucleus some degree of blue was a condition almost universal. The stain varied from the deep color which I have endeavored to present in Fig. 4 to the more light shades presented in the other figures. In Fig. 4 the nucleus is not only deeply stained, but we find the cell almost entirely devoid of anything we can call granules of chromatin, and the nucleus very irregular in outline. Besides this, there is an undoubted dilatation of the pericellular lymph space which is shown in the figure.

In very many of the cells no chromatin granules were visible; in others a small amount of chromatin was to be seen scattered about the cells in fine particles, being mostly confined to the peripheral portion of the cell body. This condition is presented in Fig. 5. In one of these cells (a) we have an entire absence of chromatin; in the other (b) it is possible to distinguish some slight chromogenic areas in the peripheral portion. Cells of this character present an extremely granular cell body and a nucleus which is usually a little more deeply stained than the body of the cell.

Irregularities in the outline of the nucleus of greater or lesser degree were very common, but the most striking examples of this

condition were shown in the sclerosed areas. Here were found cells the nuclei of which presented the appearance shown in Fig. 6. In these instances the nuclei were not distorted and twisted out of shape, as is so often the case in the degenerated nerve cell, but on one side showed the irregular indentations presented in the figure, which quite reminded one of the outline drawings of the nucleus as presented by Hodge in his study of the nerve cell during electrical stimulation.* This condition of the nucleus was by no means rare, and whether or not it would indicate a subjection of the nerve cell to some powerful stimulus is a question. I have not seen exactly this condition in any other case.

Another condition which was by no means infrequent was the absence of the nucleolus from the nucleus. When this condition was found the entire absence of chromatin from the cell was the rule and the nucleus itself was but faintly outlined (Fig. 7 b). In a few of these cells, stained particles which might have been a portion of the nucleolus at some time were visible, but for the most part even these were absent. Another condition of the nucleolus (probably a preliminary stage of the one just described) is shown in Fig. 7 a. Here we have a nucleolus of very irregular contour occurring in a nerve cell entirely devoid of granules of chromatin. This condition was quite frequent and suggests the ultimate fragmentation of the nucleolus.

The last stage in the degenerative process seems to be the disappearance of the nucleus from the body of the cell. This is apparently accomplished in a gradual manner, the nucleus first swelling so as to occupy a large portion of the cell body, then becoming very granular and faint in outline, its final dissolution being coincident with that of the body of the cell itself. One stage of this degenerative process (swelling and granular condition of the nucleus) is shown in Fig. 8.

Some incidents in nerve cell degeneration remain to be described.

In large numbers of cells there was in the region of the nucleus an unstained area which varied considerably in extent. In most instances it consisted of nothing more than a slight ring about the nucleus, in some instances so marked, however, that the nucleus appeared as if cleaved from the protoplasm of the cell. The most pronounced examples of this condition were found in cells from which the chromatin had entirely disappeared. Fig. 5 a shows this condition.

* Journal of Morphology, September, 1894.

Another point of some interest was the poorly defined nuclear outline which presented itself in some of the cells. This condition was by no means confined to the more pronounced degrees of degeneration, as it occasionally presented itself in cells which were apparently in the first stages of degenerative change. An attempt is made to show this condition in Fig. 5 b; also in Fig. 3. In these the nuclear outline is hidden at various points and not very prominent in any portion. These cells present well-marked evidence of degeneration. The rare occurrence of the apparent absence of the nucleus from a cell in which the granules of chromatin are not entirely destroyed is shown in Fig. 3 b. It is quite possible that our inability to discover the nucleus in these instances is due to the excessive homogeneous staining of the entire cell. On the other hand it is not improbable that the nucleus and nucleolus may occasionally disappear from the cell before the chromatin in the cell body is entirely destroyed. I think, however, this is very unusual.

From a careful study of the nervous elements of the cortex in a case of this sort, we should be able to glean something of the life history of the nerve cell. In the foregoing description I have described the various degenerative stages in the order in which I believe they occur. Some reasons for my conclusions may not be amiss.

The more marked degrees of staining of the nucleus occur in those cells in which there is some evidence of change in the chromogenic bodies. In the more decided degrees of nuclear stain we invariably find the chromatin in a cloudy condition, its dissolution contributing undoubtedly to the coloring of the nucleus. This condition continues till the nerve cell presents the appearance shown in Fig. 4, in which the chromatin seems nearly dissolved from the cell, but the nucleus still remains stained. I have never yet seen a deeply stained nucleus in a cell where the chromatin was entirely dissolved out, and this makes the conclusion inevitable that as the chromatin disappears from the body of the cell the source from which the nucleus derives its stain is exhausted and it soon begins to fade. The washing out of the cell in the lymph stream now becomes complete, and we have the appearance presented in Fig. 5 a.

Exactly what becomes of the nucleolus is perhaps a question. Its disappearance from the nucleus is undoubted, but the manner of its going is not quite clear. From these studies I am inclined to the opinion that we have first irregularities of outline like those

presented in Fig. 7 a, then fragmentation, and finally its complete obliteration from the nucleus.

The degenerative changes in the nucleus complete the chain of destruction. This portion of the cell first becomes irregular in outline, subsequently swelling till it occupies an abnormal proportion of the body of the cell (Fig. 8). The nucleus, as well as the surrounding protoplasm, now becomes exceedingly granular, and presents such a degenerate appearance that we are forced to the conclusion that the final complete dissolution of the cell, as such, is inevitable.

Thus we have traced the life history of the nerve cell as presented by the method of Nissl. It will be noted that very little has been said about cellular vacuolation in this study. That is because the method of Nissl shows this condition but very poorly, and as we were dealing with the behavior of the nerve cell under the Nissl stain, we thought best to leave this incident in the degenerative process out of account. It may not be amiss to say, however, that the extreme degrees of vacuolation were found in the sections stained in the fresh state.

My thanks are due to Dr. P. S. Mallon for valuable assistance in making the drawings, and to Dr. H. C. Crosby of Brooklyn for aid in procuring the specimens of normal brain.

COMMUNICATED INSANITY AND NEGRO WITCH-CRAFT.

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"Nothing is more communicable than ideas of religion and mysticism; for this reason the insanity they engender takes most frequently an epidemic type."

In confirmation of this quotation from "Mental Medicine,"* by E. Regis, the following report is submitted for publication, because of the rarity of such conditions in America, as well as for the important medico-legal bearings such cases naturally assume. In some respects the case here reported suggests the famous Pocasset (Mass.) case, although, with rare good fortune, no tragedy occurred.

On April 18, 1894, there was admitted to the South Carolina Lunatic Asylum a white man, B. S., aged thirty-seven years, married, a prosperous farmer and successful merchant, the local post-office being in his store. He was said to be in religion a Methodist, altogether illiterate, of quiet and industrious habits, and temperate in the use of alcoholic stimulants. His father was eccentric, and a maternal uncle idiotic. On admission he was excited and incoherent, in very fair bodily health, a careful physical examination giving negative results, except disclosing a slight asymmetry of the skull. He weighed 182 pounds, and was in stature 5 feet 11 inches.

From his physician, Dr. G. Y. Hunter, of Prosperity, S. C., it was learned that in December, 1893, the patient showed some mental disturbance for a few days, being suspicious that his brother was trying to kill him and that the "White Caps were after him," or were "going to burn him out." In January, 1894, after exposure while fishing, he had an attack of articular rheumatism, which continued subacute in spite of the usual treatment. Soon after this a negro styling himself "Doctor" George Darby appeared in the neighborhood, claiming to "cure diseases and to do many wonderful things through the medium power of God." The "doctor's" remedies were roots and herbs collected by himself. He claimed to be able to diagnose a disease or locate a pain simply upon learning the name of the patient. This he did, so he said, by

*Bannister's translation, page 37.

concentrating his mind upon the subject and by calling in the assistance of his "Jack," or "Little Solomon." Subsequent investigation disclosed that "Little Solomon" consisted of a bundle of roots about three inches long, wrapped in a piece of cloth and tied with a string ten inches long and having three knots tied in it. The "doctor's" method was somewhat as follows: The bundle of roots—"Little Solomon"—being suspended by the string held between the thumb and forefinger, a question was propounded. If the weight of roots inclined to the right, the answer was in the affirmative, or favorable; if to the left, a negative answer was implied, and sinister results were to be expected. Having heard that S. had rheumatism, the negro sent him word that he could cure him. He was sent for, and soon after beginning treatment with roots and herbs he disclosed to S. the wonderful powers of "Little Solomon," declaring that the "Jack" would tell him whether his store was being robbed, whether his farm-hands were at work, how much money he had, etc. He offered to sell to S. a "Solomon," and to teach him how to use it, for \$5. S., so it appears, gladly closed the bargain. Soon afterward the negro left the neighborhood.

It is presumed that S. assiduously investigated the powers of "Little Solomon." At any rate, in a few weeks, his former suspicions returned. "Solomon" told him, so he said, that his "enemies" had given negroes money to poison him, had "conjured" his plantation, and consequently witches were infesting his premises. Persuading his brother—who was of even smaller mental calibre than S.—to come to his house to protect him, S. soon induced the brother also to adopt his delusions. Together they guarded the house with shotguns and pistols. When neighbors were seen driving by or approaching the house, "Solomon" was consulted, and if he gave an unfavorable reply the neighbors were told that if they passed over a "dead-line," which was duly indicated, they would be shot. In a short time he persuaded his wife and two young children, as well as five negro men, to accept his belief in the powers of "Solomon." By these seven men a heavily armed guard was kept up constantly day and night around the dwelling and store to keep off "enemies." At night fires were also kept burning at each corner of the house to drive away witches who appeared in the shape of cats, dogs, etc. "Solomon" announced to S. that "something" had been buried about the house and store to "conjure" him. Upon digging in the place indicated by "Solomon,"

S. claimed to find a piece of wood in the shape of a coffin, with his name upon it and horse-hair tied in nine knots. These things S. regarded as of very bad omen and as the work of witches. Through "Solomon" it was learned that the nine knots in the horse-hair indicated that if the witches could be kept off for nine days all danger would be passed. With some of the material dug up S. filled a bottle, and having tightly corked it, he fancied that he had bottled one of the witches. To make a determined resistance against the rest of the witches he closed his store, thus shutting up the post-office. When informed that he would be punished by the Government for refusing to deliver the mail, he replied that the Government could fine him only \$500 and that amount he could and would pay. His brother and the negroes seemed not only to accept as true S.'s delusions, but to be as completely under their influence as S. himself. For instance, if S. said, "Listen, a gun is going to be fired," they would all reply, "Yes, we heard it," when really there had been no report. When S. claimed to see feathers and insects flying from his finger tips, they too saw them. One night S. saw a witch in the form of a white cat, which, on finding itself discovered, disappeared through the floor and was seen by his wife, his brother, and the negroes, as well as by himself, running down the road. To get rid of the evil spirits he burned his shoes, and said he would burn his clothing if necessary.

At the end of the nine days S. sprinkled his premises and filled his shoes with salt and pepper to keep off the witches.* The same substances were abundantly scattered on the floor about the mattress, upon which he forced his children to sleep. In spite of treatment and all these safeguards his rheumatic pains continued, and he therefore ascribed them to the poisonous influence of his enemies.

If "Solomon" indicated that a passer-by was an enemy, S. suspected that he was scattering poison, and ordered his brother to shoot him if, after warning, he approached nearer. The approach of such an enemy S. imagined made his whole family ill. He kept a large quantity of brine at hand, so that if a witch got into him he might swallow it, and kill the witch before it could get out. He would not let his children, aged five and six years, move

* It is a common belief among Southern negroes that witches shed their skins when they assume the forms of animals, and that if such skins can be discovered and filled with salt or pepper the witches will die in consequence of being unable to assume their proper forms again.

about the house without consulting "Solomon." He at length refused all food and did not sleep for five days and nights.

At this point his family physician was sent for. Before admitting him, however, S. consulted "Solomon," and receiving a favorable response he admitted the doctor and took the hypnotic prescribed. He then slept five hours. Upon waking he ate, and his mind seemed clearer. Meanwhile S.'s brother and the negro allies refused to give up their firearms under any condition. Soon his delusions returned with renewed intensity. To further protect himself and family he resorted to "silver tea," made by boiling silver coins in water. This they all drank. Large fires were built to keep the witches from coming down the chimney. S. now claimed supernatural power. To establish his claims he carried red-hot tin pans upon his hand about the room.

At this point he developed a religious frenzy, spending much time in singing, "shouting," and praying. His brother was converted. S. said that God warned him that the day of judgment would come Friday, April 13th. He held prayer meetings, to which only a few selected friends were admitted. On one occasion he said, "Tommy [the oldest child] is the best boy and has got to die, because God has said so."

He telegraphed to a distant part of the State for "Doctor" Darby to come and drive away the devils. Upon his arrival the negro was arrested and put in jail for practicing without a license and obtaining money under false pretenses.

Having failed by every other means to get the guns and pistols from S. and his allies, his neighbors finally succeeded in obtaining all the weapons upon the promise of a visit from "Doctor" Darby. Accordingly, on the 14th, the negro was taken to S. On seeing Darby, S. was greatly excited at first. Then he embraced him. The "doctor" privately expressed the opinion that "S.'s mind was deranged, because he had studied too hard." When Darby ordered the salt and pepper to be swept out, S. obeyed him. The negro then sprinkled S. with a curative powder, consisting of clay, cobwebs, and burned wool. So soon as this had been done, S. declared himself "well." He gave Darby the bottle containing the witch to be destroyed; then, resting his head upon Darby's shoulder, he fell asleep. When he awoke the negro gave S. a bath and got him to eat. Even when S. was very incoherent, a word from the negro would serve for a time to bring him back to his senses. So long as Darby remained with him S. was quiet. For

one or two days after Darby returned to jail S. appeared to have given up his delusions, and ate and slept regularly. Then the old delusions and hallucinations returned, and he began to suspect his wife and children of trying to poison him. (There is no history of sexual excitement.) He thought his neighbors poisoned him by shaking hands with him, and to avert the evil he would walk around them three times and fall upon the floor. Finally, the day before admission, after attempting to kill his wife with a club, he was taken to jail, but upon the pretext of going to visit Darby. On the journey S. said that God was giving him light to see, and he shouted, "Go, you devils!" He told his companions that he would fall dead at a certain place. On reaching the spot he became cataleptic. As soon as he saw the negro in jail he again declared himself "well." On the morning of his admission to the asylum he said that God had appointed him to do a special work, but he was afraid his "enemies" would kill him. Later he had cataleptic attacks. Upon being seen by the judge of probate he was forthwith committed to the asylum, and made a railroad journey of two hours without special incident. While being driven from the station to the asylum he thought he saw the devil mounted upon a fine horse.

At the time of his admission it was reported that his wife then believed she had made a mistake in accepting S.'s delusions. His brother, however, still thought they were right in their ideas, but admitted that S.'s mind might have become affected. The five negroes remained firm in their superstitious belief.

After admission, S. remained violent during the first three days, making attacks upon the attendants and the assistant physician. His appetite was excellent. He was kept walking out of doors during the day. A warm bath at bed-time served to promote his sleep.

At the end of the first week he was coherent but restless, making frequent attempts to escape. He was very reticent in regard to the disturbance at home, merely declaring that he was not insane. An older brother then visited him, pronounced him well, and insisted upon taking him home. Finding that this could not be done with the superintendent's consent, he finally, on May 10th, brought responsible bondsmen, and, having been warned of the danger of such a step, took S. away upon a bond relieving the officers of the asylum of all responsibility for his conduct.

Upon returning home, S. resumed his business and farming opera-

tions, and has since conducted them with an unusual degree of success.

In March, 1895, S.'s family physician, Dr. G. Y. Hunter—to whom I am greatly indebted for the history of the case—gave the following additional facts: S. is now distinctly insane, and may at any time be returned to the asylum. He has not manifested any enmity toward the persons who were instrumental in placing him in the asylum, having been especially friendly to Doctor Hunter. He takes much pride in relating his experience at the asylum, and says that if he had not been taken out by his family God would have delivered him.

The most striking changes noticed after his return home were his perfectly natural affection for his wife and children, his persistent silence about "Little Solomon," and the extreme fear he entertained toward the negro Darby. He said then, and maintains to this day, that Darby "has more power than any other man living." He was afraid even to touch a letter that Darby wrote him. He says that Darby was in the employ of his "enemies," and worked with them, thus greatly intensifying his sufferings. Darby, having been duly tried and fined for practicing medicine without a license, went to another part of the State and remains there, having learned that S. had threatened to shoot him if he returned to his neighborhood. S. maintains to-day that all his prophecies have been fulfilled, and that punishment is being visited upon his enemies.

S.'s brother accepts to-day as true all of S.'s delusions. He does not now think that S. was insane at the time of his commitment, but believes that Darby was party to a conspiracy to "conjure" S., and declares that they will kill Darby if he returns to the neighborhood. S.'s ideas still dominate the five negro men, who simply say they "can't understand it, but all S. said was true." Other negroes of the neighborhood declare that S. was "bewitched," and refuse to live upon his plantation.

Curiously enough, a white woman, who has been a school-teacher, and two well-to-do farmers, neighbors to S., accept his delusions. The woman also believes that her premises have been "conjured."

Meanwhile, S.'s sane neighbors, so it is said, are prepared at any time to return him to the asylum. It is to be hoped, but hardly to be expected, that this necessary step will be taken before S. commits some overt act.

CHRONIC DELUSIONAL INSANITY OF SYSTEMATIC EVOLUTION.

(LE DÉLIRE CHRONIQUE À ÉVOLUTION SYSTÉMATIQUE.)

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LECTURE I.

SUMMARY.—Chronic delusional insanity, its four progressive stages—incubation, persecution, ambition, and dementia. Chronic delusional insanity of systematic development; a special pathological entity; should be studied apart and carefully distinguished from the systematized insanities of the degenerate.

Historical résumé.—Lasègue's (1852) mania of persecution, embracing all insanities with distinct delusions of persecution, comprises clinical species differing in their onset and termination.

Morel (1860) describes hypochondriacs with delusions of persecution becoming ambitious. Such cases are explainable as being due to short attacks of insanity supervening in the degenerate.

Foville's (1871) megalomania comprises, besides persecuted and hallucinated patients who have afterward become ambitious, those who have been ambitious from the outset, whether hallucinated or not; those in whom the manias of persecution and of grandeur are simultaneous, as well as others in whom the latter form of insanity has preceded the mania of persecution.

Under the title, chronic delusional insanity of systematic development, we propose to describe a special unvarying form of mental affection, which, in its nature, beginning, and progress, must be clearly distinguished from the systematized insanities of the degenerate. The disease presents a regular evolution and has four definite stages succeeding in an invariable order. First, there is a frequently unobserved period of incubation during which the patient is mentally depressed, his ideas are gloomy, his mental condition is hyper-sensitive and he is subject to an anxiety he can not account for, and although not yet insane he is anxious and gradually becomes accustomed to false interpretations and sensory illusions (period of anxiety).

When the mania of persecution is once established his insane

conceptions become systematized under the influence of auditory and other hallucinations (period of persecution).

As the disease gradually progresses, besides the ideas of persecution a few ideas of satisfaction manifest themselves until at last the prevailing mania of grandeur almost obliterates the mania of persecution (period of grandeur or ambition).

In the fourth stage of the disease dementia sets in, and, concomitant with the progress of the mental enfeeblement, the insane conceptions disappear (stage of dementia). Whether a patient laboring under this form of chronic mania is found to be anxious, persecuted, ambitious, or demented, depends entirely on the stage of the disease through which he is passing at the time of observation.

This form of insanity with an individuality so marked, a progress so regular and a prognosis so invariable, must not be confounded and confused with persecutory mania or with megalomania. Many different kinds of insanity were at one time comprehended under these names. The classification of mental disease simply according to the prevailing character of the mental condition constitutes heterogeneous psychopathic groups, each with a different course and prognosis. It is of the highest importance clinically to recognize and distinguish among persecution maniacs those destined to become megalomaniacs without hope of recovery and those on the other hand who become alternately persecuted, ambitious, or hypochondriac and in whose case the prognosis is very different. We have at last, under the form of chronic systematic delusional insanity, been able to group in a natural manner several conditions hitherto looked upon as distinct diseases, such as monomania, demonopathia, persecutory mania, megalomania, and theomania. Many of those various symptomatic forms are merely steps in the progress of the special pathological entity we are about to study. Other similar varieties must be classed among the insanities of the degenerate.

Before proceeding to discuss the four periods of progressive insanity we shall sketch the successive variations of the opinions held on the subject of systematized insanity.

There have been recognized at all times, among the insane, certain patients whose characteristic eccentricities and special mental physiognomy arrested the attention of observers. Though manifestly insane they present the peculiar phenomenon of the more or less apparent integrity of their reasoning faculties. They are able to conduct themselves like ordinary people for long periods of time. They are also able to converse rationally and to write apologetically

in defense of their insane delusions, being sometimes even clever enough to convince those around them. Their attention, memory, and reflection may be only slightly or not at all affected, and though the basis of their reasoning is false they always reason correctly.

Paulus Zacchius, Boerhaave, Lorry, Rush, and Kant, at the end of the last century and the beginning of this, recognized, but without insisting upon it, a partial insanity classified by them with melancholia, but distinct from ordinary insanity. Pinel, in 1809, described two different forms of melancholia, as follows: "Sometimes it is a struggle between pride and a chimerical idea of the possession of immense wealth or unlimited power; sometimes depression, even despair." But while this was a fact of ordinary observation, it soon became obvious to clinicians that it was necessary to proceed still farther with the classification of patients afflicted with limited delusions.

Esquirol was the first to lead psychological medicine into this new channel. He made numerous observations on the various clinical forms of the disease, isolating them from other pathological varieties, and giving them the special name of monomania, which he himself invented, and which he defined as a mental disease, characterized by a partial affection of the understanding, the emotions, or the will.

Monomania was divided by Esquirol into lypemania and melancholia, characterized by a partial insanity and by an exciting or lively emotion. His monomania included several varieties of mental affection. "In intellectual monomania the disorder of the intelligence is confined to a single subject. * * * The patients start from a false premise, from which they undeviatingly and logically reason, and from which they infer conclusions which modify their affections and their behavior. Outside of their partial insanity they can reason as clearly as other people. Illusions, hallucinations, visionary association of ideas, false and whimsical beliefs form the basis of their insanity."

In affective monomania the subjects are not irrational, but manifest a perversion of their affections and temper. With plausible reasons and very well argued explanations they justify their disordered sentiments and excuse their unconventional behavior.

When the will power is affected the patient, being in an abnormal mental condition, is led to the perpetration of acts undetermined by reason or sentiment; acts of which his conscience disapproves, and

which his will can not repress; acts which are involuntary, instinctive, and irresistible; this is called instinctive monomania. In Esquirol's description of certain cases of lypemania and monomania, we find many features common to patients suffering from chronic progressive insanity in the periods of persecution and grandeur.

The lypemaniac may imagine that he is the subject of destroying influences, such as electricity or magnetism, or he may be convinced that he is being poisoned by chemical agents, or that innumerable and indescribable tortures are in store for him. He may believe that his tormentor can listen to all that he says, though very far away, or can even read all his thoughts.

This classification of Esquirol which placed lypemaniacs and monomaniacs side by side with such very different, and now separately regarded, psychopathic conditions—as the insanities of the hereditarily degenerate, impulsive insanity, obsession ideas, and the host of episodal and syndromal conditions which are characteristic of mental degeneracy—resulted in confusion, which has not been easily eradicated. Ten years after the publication of Lasègue's monograph on the mania of persecution, we find authors classifying this form of disease among the intellectual monomaniacs, and next to such a condition as aichmophobia (fear of touch). This view of monomania, although open to criticism, was excusable; it formed one of the necessary steps toward the correct understanding of the systematized psychoses and of chronic progressive insanity. For a long time it was unhesitatingly accepted by scientific writers and defended by the majority of authors.

“What a difference there is,” says Baillarger, “between a lunatic among whose numerous intellectual ideas only a very few are imperfect, whose mental activity is intact, who can perform the ordinary duties of life, and the maniac or melancholic whose completely unsettled intelligence produces disordered mental activity or insurmountable inertia.” And yet, to how much discussion has the term monomania given rise! Artificially divided, based more upon the external appearance and general conduct of the patient than on the pathogeny and evolution of the disease, the term monomania first of all grouped together separate varieties of mental disease; secondly, it distributed over different classifications similar forms of the same affection; and, lastly, it isolated and formed into special pathological entities symptomatic aspects of and stages in the same mental affection. Later on there was an attempt to separate from monomania and melancholia all cases which manifested any distinct or

typical symptoms. The most conspicuous example of this is to be found in that form of monomania described by Lasègue under the name of the *mania of persecution*.

Before referring to that excellent work let us recall the writings of Guislain, who in 1852 separated accusatory mania, or accusatory monomania, from melancholia, and insisted on the characteristic features of that form of insanity which he regarded as a maniacal condition. "Far from accusing himself, this maniac regards himself as a victim. He makes accusations against his friends, his relatives, and imaginary persons. He believes himself to be surrounded by malicious agents, to whose malevolence he is exposed, * * * who hatch plots and conspiracies against him, * * * and who bear ill will toward him. * * * Malignant influences, * * * such as electricity and magnetism, are employed against him." Lasègue, in his monograph on the mania of persecution (*Arch. Gen. de Méd.*, 1852), had the merit of detaching from this great symptomatic plexus a group of patients manifesting a partial insanity characterized by stereotyped delusions of persecution. Such delusions of persecution were not confused, nor did they occur in an episodal way, as in alcoholic insanity, maniacal conditions, senile insanity, and epilepsy. The systematized delusions of persecution were the only part of the disease he studied, and, although the advance thus contributed by Lasègue can not be too highly praised, yet his work, to a certain extent, is open to criticism.

In order the better to establish the type, he studied it only during the exacerbations of the condition, neglecting thus the progressive course of the disease. He has carefully indicated a prodromal period, and has pointed out that certain persecuted maniacs attain slowly and step by step to the construction of their systematized insanity, and that there are others in whom the process of the formation of the insanity is so rapid that the first stage is scarcely perceived. If Lasègue had not stopped at the stage of efflorescence, as he called it, and if he had continued to study the evolution and the termination of the disease, he would have come to the inevitable conclusion that those maniacs of persecution, in the description of whose cases the prodromal stage was a mistake, are identical with the maniacs of persecution whose recovery he had found to be so rapid, and it follows that he would not have placed in the same group the group of cases that almost always recover with the other group who never recover. Persecuted and hallucinated lunatics who quickly recover belong, for the most part, to the class of the

hereditarily degenerate. Sometimes they are chronic or subacute alcoholics, and, more rarely, intermittent or hysterical cases. They present the general appearances of chronic progressive insanity in the second stage, but their antecedents, the mode of commencement of their insanity, and, above all, its subsequent course, are totally different. They never present the systematic, methodical course of the latter disease.

Another error which we ought to notice because it has been the cause of much confusion is the assertion that persecutory mania may or may not be accompanied by hallucinations. After discoursing upon hallucinations and insane interpretations in the commencing stage, Lasègue adds: "Thus far the unfortunate sufferer confines himself within the limits of those real sensations upon which he has founded his insane deductions. A certain number of patients never get beyond this limit. That which they have heard and misinterpreted must really have been heard by them, and was not the product of hallucinations, and they may pass through all the stages of the disease and reach its ultimate termination uninfluenced by hallucinations. Others, on the contrary, are pursued by hallucinations without becoming seriously affected by them." Farther on we read: "Hallucinations of hearing are neither the necessary consequence nor do they invariably precede the insanity of persecution, yet they are the only form of hallucination which is compatible with it."

Lasègue having included in the mania of persecution patients in whose case there was no prodromal period and others without hallucinations, which cases are frequently curable, naturally found himself obliged to "admit a period of subsidence of the disease," which he deals with as follows: "I have traced the course of persecution mania from its commencement to its complete establishment, and as I only wish to establish the type and to decide as to the features which should enter into its definition, it will be unnecessary to study its subsidence or to investigate the therapeutic indications."

Again, Lasègue's statistics show the proportion of female lunatics afflicted with the insanity of persecution to be 25 per cent. This enormous number emphatically proves that Lasègue included in this group many cases which did not properly belong to it, and he himself later began to have misgivings as to the accuracy of his work, and with regard to subacute alcoholic insanity especially insisted upon its differential diagnosis from the mania of perse-

cution. Later still, having his attention occupied with several cases of aggressive monomania, he devised a new group of persecuted-persecutors quite distinct from the mania of persecution. His monograph concludes with fifteen clinical cases very much abbreviated, but a perusal of which goes to confirm what we have already said, and shows side by side totally different clinical varieties.

On the whole Lasègue's mania of persecution has marked a distinct advance by separating from the lypemania and monomania of Esquirol a new clinical group; but this pathological entity, based almost entirely upon a symptomatic feature — the idea of persecution only — must have embraced many dissimilar varieties. Hence a regrettable confusion has arisen which to this day exercises a certain amount of influence upon current opinion. At the present time it has become necessary to distinguish among Lasègue's persecution maniacs those who have hallucinations and those who have not; those who from the first possessed systematized delusions of persecution and those in whom they developed after a long preparatory period; those who are curable and those who are fated to remain incurable.

Morel, in 1860, referring to the subsequent history of insane hypochondriacs, describes hypochondriacal insanity, and in a separate chapter refers to persecution maniacs who had become ambitious. If he had included only persecution maniacs who had developed grandiose delusions, he should have certainly found among them many cases of chronic progressive insanity, but with Morel it was a necessary condition that they should previously have been hypochondriacs. Now hypochondria, as we know, is most frequently an indication of hereditary nervous degeneracy, and as chronic progressive mania appears rarely in the latter, it scarcely seems probable that persecuted and ambitious hypochondriacs could present sufficiently distinctive characteristics to entitle them to be thus classified.

A perusal of the two clinical cases given by Morel as typical examples, demonstrates beyond question that he was dealing with hereditarily degenerate cases, which present, even in their insanity, that mental variability which is so characteristic of the great majority of them. The first case is that of a man twenty-eight years of age, with a tendency to melancholia from his earliest years, extremely emotional, and subject to migraine. After having had his ears boxed in public, this man became more depressed, timid, and hypochondriacal, and developed delusions of persecution. He

became alternately stuporose and violently agitated. He presented disorders of general sensibility and hallucinations of all the senses. At times he believed himself in hell; at other times that he was being poisoned; shortly afterward he became rapidly ambitious, and heard the voice of God commanding him to be a king. * * * Finally, after a succession of various forms of insanity, the patient recovered, which is not astonishing, because of the mobility and multiplicity of his morbid mental manifestations. Evidently this patient can not be classed either in Lasègue's mania of persecution, or as a case of chronic progressive insanity.

The second case is that of a man twenty-five years of age, who had been guilty of excesses all his life. Morel describes him as "an insane hypochondriac with a tendency to suicide, homicide, and venereal and alcoholic excesses." The following is a short sketch of his morbid career: "In order to escape from the irresistible tendency which prompted him to commit murder, Lemaitre fled from the conjugal roof with all the money he could lay hands on. He wandered through the country, living in taverns, and committed incredible excesses. It was not until after he had exhausted his last copper that he returned to his home, besotted, dejected, thoroughly ashamed of himself, but with a placid appearance. He resumed his work, promised never again to transgress, begged his wife's pardon, and lamented his misconduct. The crisis was past; but after a period of rest the same symptoms were reproduced under the influence of identical causes, and his absences from home became more prolonged than ever. Finally he became the victim of ambitious mania. He declared that he was appointed to be the savior of the State, and that he was destined to become the chief support of the empire. Later on he was tried before the assizes for having set fire to a corn-rick, which he did in order to attract the attention of justice. The patient was cured after this first attack, and was able to leave the asylum, but after a relapse he was recommitted to the asylum of Quatremares."

Like the preceding case, this patient can not take rank in Lasègue's mania of persecution nor in our chronic progressive insanity.

Let us now glance at the truly interesting memoir of Foville on the mania of grandeur. We find in this conscientiously-written work the counterpart of Lasègue's mania of persecution. Foville appropriates many of the hallucinated and persecuted cases of Lasègue, who afterward became ambitious and classified them in a new pathological group—megalomania. If Foville had been con-

tent to include under megalomania only cases of persecutory mania which afterward became ambitious, we should have agreed with him, but his megalomania includes chronic maniacs with hallucinations and delusions of persecution, who, after a long period of incubation, ultimately became ambitious, and also patients who from the first had hallucinations and ambitious ideas, as well as those who had ambitious ideas and no hallucinations. Finally, in those cases in which megalomania manifests itself first and is followed by mania of persecution, we are still confronted with the same difficulties. The clinical group, megalomania, comprises very different types, not only from the point of view of the nature of the insanity, but also from the point of view of the commencement and evolution of the disease.

Foville attempts to establish megalomania with twelve clinical cases; the first four cases obviously refer to hereditarily degenerate subjects. The first patient is a young man twenty-two years of age, the illegitimate son of a mother who died insane. He had previously manifested instinctive and sensory anomalies. This case of ambitious mania occurred without manifesting any intervening hallucinations. The second case is that of a hereditarily degenerate patient whose ambitious mania was preceded by hallucinations. The third case was one primarily of the mania of grandeur, with hallucinations and secondary delusions of persecution. The fourth patient presented a polymorphous insanity, accompanied by delusions of persecution and grandeur. The fifth case is one of chronic progressive insanity, with systematized hallucinations and delusions of persecution, followed by delusions of grandeur. The sixth case is the only one of the twelve in which hypochondriacal insanity is found, which, according to Morel, ought to manifest itself constantly. This patient would also seem to be hereditarily degenerate. The remaining six cases have been considerably abridged, but they appear in the main to have some relation to chronic progressive insanity. This enables us to form an idea of the grouping of clinical facts, which, in spite of their symptomatic and disjointed character, all megalomaniacs possess in common. On the whole, megalomania constitutes a clinical mosaic wherein we are unable to determine the course or the prognosis of any of the cases.

LECTURE II.

SUMMARY.—*Historical résumé* (cont.).—Foreign authors, Griesinger (1886).

Secondary systematized insanity.

Schüle, in his chronic systematized mania, includes a variety of cases having a totally different course and history.

Krafft-Ebing (1888) attempts to include under one scheme all systematized insanities.

Kraepelin, Morselli, and Buccola, Amadei and Tonnini, Bucknill and Hack-Tuke, Maudsley.

Opinions somewhat similar to those we have already discussed in the preceding lecture are found in the writings of German authors, whereby psychiatric nomenclature is not a little confused.

The terms *Wahnsinn* and *Verrücktheit* are by various authors differently understood. It may be stated that they correspond closely to the monomania and the partial insanity of the older French alienists. Mendel, in 1881, Werner, 1889, and still later Snell, have proposed to dispense with those terms, and to substitute the word "paranoia" to denote systematized insanity, thus inextricably confusing the various classifications, yet the old words *Wahnsinn* and *Verrücktheit* have by no means disappeared from psychiatric terminology, but are to this day concurrently used with the word paranoia.

Under the latter term, some authors, as we shall see, group not only systematized insanity (chronic paranoia), but also acute hallucinatory forms of insanity (acute paranoia), two totally distinct forms. Griesinger (1849-1861) regarded *Verrücktheit* as corresponding to monomania and partial insanity (systematized insanities). He looked upon it as the second stage of a mental affection, of which the first period was affective (mania, melancholia). Hence his descriptive term, "Secundäre Verrücktheit." Snell (1869), Westphal (1876), and later Sander proved the existence of a series of cases presenting no antecedent state of mania or melancholia; those primary forms therefore constitute the class of "Primäre Verrücktheit." It should be added that Griesinger (1867) modified his former opinion and acknowledged the possibility of the primary origin of systematized insanity. Further, we may add that Mendel—who, as has been already stated, substituted the word paranoia for *Verrücktheit*—affirmed that out of 150 cases of paranoia there were only three which were secondary in their origin. Westphal himself, in 1864, declared his inability to admit that a systematized insanity

could possibly be consequent to a primary condition. Griesinger, in another part of his writings, classified systematized insanity along with states of intellectual enfeeblement. Against such a view of their relationship Baillarger protested. Griesinger himself admitted that in the formation of these psychoses, intelligence and mental activity of a somewhat high order were requisite, and that the insanity became systematized under the influence of the reasoning faculties.

The same author distinguished one form of systematized insanity with active, feverish excitement, in which the patients have as the subjects of their delusions God, kings, rulers of the universe, etc., and a second form characterized by passive and depressed emotion, in which the patient is described as tortured by electricity and other similar agencies. Griesinger insisted on the fact that hallucinations and delusions are more common in systematized insanity than in any other form, and that in many instances they constitute the chief food and sustenance of the insanity.

Let us now examine the opinions of contemporary writers such as Schüle, Krafft-Ebing, and Kraepelin. Schüle distinguishes between psychoses occurring in the subject, with completely-developed psychical organs, and psychoses occurring in an imperfectly-developed condition of the same organs (the hereditarily degenerate with their special psychic stigmata, moral and intellectual defects, dominant ideas, and sexual perversions). Into the first division the author places two large groups, separated from each other according to the condition of the resisting power of the cerebrum, the one group comprising the psychoses of a valid or healthy brain, the other of an invalid or impaired brain.

The weakening of the cerebral resistance may be congenital (being then only predisposing) or acquired.

The psychosis characteristic of a weakened or impaired brain may be consequent upon a preceding psychosis of the healthy brain. Among the latter psychoses may be mentioned chronic systematized delusional insanity (*Chronischer Wahnsinn*), including two forms—the mania of persecution and chronic, systematized, ambitious mania.

Originäre Verrücktheit is in its symptoms very similar to chronic *Wahnsinn*, but it is distinguished from the latter by occurring only in the hereditarily degenerate. In it the mania of persecution and ambitious mania may indifferently precede each other, may simultaneously occur, progress side by side, and even intermingle in the same individual.

In the chapter devoted to chronic *Wahnsinn*, Schüle, after describing persecution mania, with its period of incubation, studies "the complications of ambitious mania which are added to or substituted for the mania of persecution." Sometimes it may originate in a spontaneous and unobserved manner; at other times it forms the natural conclusion to a preceding mental disorder. This ambitious aspect of the affection is a symptom of the greatest gravity, and may be a sign of incurability. Besides the foregoing symptoms, which answer exactly to those of our chronic, progressive delusional insanity, Schüle describes, still under the title of chronic *Wahnsinn*, mental aberrations, commencing with a maniacal phase or with a systematized insanity of an acute melancholic kind. He classifies also under the same term cases in which a periodic mania of persecution alternates with an ambitious mania also periodic, besides other cases where, during an attack of persecution mania, there is suddenly superimposed a hypochondriacal or an ambitious mental disorder which assumes the form of a maniacal attack, and other cases in which the insanity of persecution manifests itself unexpectedly and suddenly. Such cases have a variable termination. Chronic *Wahnsinn*, to employ Schüle's own expression, is a protean affection. With the exception of the distinction which he draws between persecution mania in the degenerate and in patients with diseased or invalid brains—a distinction which we by no means homologate—we remain exactly at the point at which Foville left us in his description of megalomania. Professor Krafft-Ebing describes as *Wahnsinn* various forms of chronic progressive insanity and of Schüle's chronic *Wahnsinn*. The *hallucinatorischer Wahnsinn* is essentially characterized "by the excitation of sensory centers in an exhausted brain." The multiplicity of the hallucinations produces a grave disorder of consciousness, followed, secondarily, by a maniacal or melancholic mental condition. The hallucinatory forms of mental disorder corresponding to the idiopathic insanities of the degenerate have no connection with chronic progressive insanity. Setting aside the distinction established by Schüle, this author describes in the group of cerebral degenerations *Paranoia* or *primäre Verrücktheit*, which he divides into *Paranoia originäre* and *Paranoia tardive*. The former commences in infancy, or puberty, and is relatively rare (sixteen in 550 cases of paranoia). The latter includes among its subdivisions the mania of persecution and megalomania. "These two forms of insanity may," says Krafft-Ebing, "be seen, either com-

bined or separate, in the same individual. * * * Often, during the evolution of persecution mania, there occur such powerful ideas of grandeur that they almost entirely obliterate the original delusions of persecution. The hitherto persecuted patient develops into an emperor or king. This author also describes certain persecuted maniacs who have from infancy been afflicted with a gloomy, eccentric temper, and hypochondriacal sentiments. He admits that hallucinations may be very rarely observed, and he asserts that, with the exception of ephemeral lucid intervals, out of 500 cases not a single permanent cure has been effected.

The foregoing quotations demonstrate that the chronic *Wahnsinn* of Schüle and the *paranoia persecutoria* of Krafft-Ebing are much more comprehensive groupings of mental disorders than chronic progressive delusional insanity, and that, like Lasègue's mania of persecution, Morel's persecution mania and hypochondriacal insanity, and Foville's megalomania, they include many totally distinct clinical forms.

Kraepelin, like Schüle, admits that *Verrücktheit* (systematized insanity) is produced "on the soil of cerebral invalidity with insufficient reasoning power." This invalidity may be either congenital or acquired. The author criticises adversely the descriptive terms employed by Westphal, Schüle, and Mendel, who, under the same designation (*Verrücktheit*), include very different clinical forms of mental disorder, such as the acute hallucinatory forms (acute *Verrücktheit* — Westphal; acute *Wahnsinn* — Schüle), and the chronic systematized insanities (*primäre Verrücktheit* — Westphal — Chronic *Wahnsinn* — Schüle). He refuses to classify constitutional chronic and incurable psychoses chiefly proceeding from causes extrinsic to the individual beside the acute and curable psychoses. He recognizes the difficulties which have hitherto hindered all attempts to establish true clinical divisions of the systematized insanities, for neither the causes of the disease, nor the genesis of the false conceptions, nor the symptomatic coloring of the insanity, can form the basis of a scientific classification of *Verrücktheit*.

Kraepelin, however, after admitting the unsatisfactory nature of the expressed views of German writers upon systematized insanity up to the present time, and in spite of his well-founded criticism of symptomatic classifications based upon the features of the insanity (ideas of persecution, ideas of grandeur, etc.), is content with dividing systematized insanity into two large classes, namely, the

expansive or ambitious form and the depressed or melancholic form.

Having considered the most recently-developed views entertained in France and Germany with regard to systematized insanity, we shall next briefly sketch the opinions entertained in England and Italy on the same subject.

In the latter country Buccola (1882) called attention in his writings to the German views on primary systematized insanity. Morselli and Buccola (1883) insisted upon the necessity of separating these forms from the other clinical varieties of insanity, and following this are found the same arguments which resulted, years previously in France, in the creation of the descriptive term "partial insanity." But the authors just referred to, in their "*Pazzia Sistemizzata primitiva*," include very different forms of insanity.

Besides the intellectual monomania of Esquirol and persecution mania such different clinical forms as dominant ideas, hypochondria, hysteria, erotomania, and the reasoning states of *mattoids* are included. They regard it entirely as a psychosis of the degenerate, and observe and note its chronic course, its slight influence over the so-called intellectual faculties, and its slow evolution into a systematized insanity. They insist upon the rarity of recoveries and point out the high average intellectual level of the persons affected, who constitute the most intelligent and industrious portion of the population of asylums.

Amadei and Tonnini, contrary to the previous authors, admit the existence of primitive systematized insanity occurring partly in the mentally degenerate, and substitute the term *psycho-neurotic paranoia* for degenerative paranoia. They also distinguish the acute from the chronic form, the primary from the acquired, the hallucinatory from the non-hallucinatory forms, and they note the transformation of the mania of persecution into the mania of *grandeur*, but they have failed to observe the special evolution of false conceptions and delusions which separates and distinguishes this particular form of mental disorder.

In England, Bucknill and Hack-Tuke, in their handbook of *Psychological Medicine*, give the classification approved of at the Congress of Mental Medicine (1867), in which delusions of persecution have a place, but they set aside that classification and include the mania of persecution under the heading of "*Delusional Insanity*," along with the chronic insanities and the insanity of the degenerate.

In his interesting book, "Crime and Insanity," Maudsley classes persecution mania as partial intellectual insanity without attempting to distinguish them. He places it, however, beside melancholia with hypochondriacal hallucinations and homicidal mania.

According to the character of the delusion, Hammond includes the most varied forms of mental aberration under the term "Intellectual Insanity." He says, "Delusions may be founded on illusions or hallucinations; often they are the result of false reasoning from imaginary premises without any relation to sensory impressions." In short, we recognize in his definitions the intellectual monomania of Esquirol.

We have dealt with the defects in the views of our predecessors and we have shown the works of our contemporaries upon this subject. Does the persecution mania of Lasègue, or the megalomania of Foville, or the paranoia of the Germans present the characteristics of a pathological entity with a constant course? We think not. The conception of chronic progressive insanity of systematic evolution has had the effect of clearing up somewhat the darkness hitherto enveloping the group of systematized insanities. With the aid of this discovery we are enabled to carry the analysis of these mental affections a step farther and to isolate from the confused mass a new and distinct form of mental affection.

The prevailing character of the insanity being of itself insufficient to determine a distinction between apparently homogeneous clinical forms, it is necessary to investigate the antecedents of the patient, to study the history of the disease, its mode of commencement, and its evolution, in order to thoroughly understand the apparent uniformity of symptoms presented by unlike types of mental disease requiring separate appellations and descriptions.

[TO BE CONTINUED.]

ABSTRACTS AND EXTRACTS.

PRESENT SITUATION OF THE COLONY OF GHEEL.—By Dr. J. A. Peeters, director of the colony.

[The account given below of the actual situation of the insane asylum of Belgium, at Gheel, near Antwerp, is translated from a paper read by Doctor Peeters, its superintendent, as we should call him, at a meeting of the Belgian Society of Mental Medicine, in the summer of 1894. It gives the latest information available, and shows what improvements have been made at this interesting village asylum (technically styled a "colony") within the past few years. As the best American descriptions of Gheel, and particularly that contained in Mr. Letchworth's valuable book, "The Insane in Foreign Countries," date back several years, it will be well to have this recent and official account in correction of the earlier ones.—*F. B. Sanborn.*]

"I described our Colony of Gheel, which holds a place so important in the public care of the Belgian insane, in 1888, touching also on the whole family care of the insane, as it then was. But opinion respecting this subject has since been much modified, and the application of the Gheel system has extended, and tends to become common in other lands. One of the United States of America (Massachusetts) is making trial of it on a small scale; nearer home, France has established its Colony of Dun-sur-Auron; and in Holland it has been proposed to change the charity house at Frederiksoord into a colony of the insane.* Thus, in spite of criticism, not always well-founded, and sometimes unfair, on our institution, where family care has been in use for several centuries, its principle has been found correct, and before long all countries may have open asylums modeled after Gheel. Our colony may take some credit for this. All those interested in the care of the insane are apt to visit Gheel, and borrow something from it, which they modify as their own situation may require, and improve as much as they can. Now what has been happening at Gheel during this grand scientific and humane movement? Has our colony remained stationary in the midst of progress everywhere else? Let me briefly answer this question.

"First of all, we may say that the characteristic feature of Gheel—family life in freedom—has been strictly maintained. French physicians, among them Jules Falret, seeing our infirmary going up, asked if the colony was not to change its character. This famous French alienist said: 'The infirmary is designed for only fifty patients, but it can easily hold 100, and it is certain that, once opened, it will soon have the larger number, in spite of the purpose of the physicians and managers, and notwithstanding the express conditions of its establishment.' In other words, our infirmary was to people itself at the expense of the colony, and imperceptibly become a close asylum.

* Doctor Peeters might have added that in several parts of Germany the Gheel or Scotch system of boarding the insane in families has been introduced of late years; and that the real family life of patients in asylum cottages or villas has much extended in all lands.—*F. B. S.*

"More than thirty years have since passed; * the population of Gheel has grown from 750 to nearly 1,900 insane persons; but the infirmary patients have not increased in the same proportion. In 1865 there were regularly from twenty to thirty; ten years later, from thirty to forty; in 1885 they approached fifty, while to-day they average from sixty to sixty-five only. Usually, the men in the infirmary outnumber the women, which is not surprising, since oddities of behavior, acts of violence, and inclinations to run away are more common among men. Of course there has been an increase, and it could not have been otherwise; the infirmary has admitted more patients, because the population from which they come has increased. Among the 1,875 patients whom we had January, 1894, about 1,800 were enjoying liberty and family care.

"It may be added that the patients mingle more and more with the community in which they live, and that their liberty is greater than formerly. Thanks to a stricter oversight, the patient has been put more on the footing of the family that cares for him; he always eats at the same table, when that is possible; he goes to church with them, works along with them, and rather less than they do; and at the week's end the head of the household gives to him, as to his own children, a larger or smaller payment. To prevent putting the patients on one side, the family on the other, our rule permits no more than two patients in one family. I know but one exception to this, and that is quite justified by the facts.

"We have just seen that seclusion in the asylum infirmary is the exception; moreover, the use of coercive means has been brought to a minimum. The sight of some apparatus in use at Gheel formerly drew sharp censures from the opponents of our colony; they forgot that restraint was then severe in the close asylums, immured in their high walls, which ought to have made it less needful. Now what is the practice here to-day? Muffs, belts, and camisoles are quite disused; the restraining-chair, most formidable instrument of coercion, which checks organic functions and paralyzes the muscles, will soon completely disappear; at the infirmary its use is strictly forbidden. The guardian has no right to shut up his patient in a room; if in exceptional cases he must resort to this, he must notify the physician and the section overseer. For some patients, who are masturbators, or denude themselves, we allow the use of one or both leather gloves (mittens); this is the only means of restraint officially recognized.

"It is not surprising that, in a population of nearly 1,900 insane, persons are sometimes found who are violent, aggressive, intractable, dangerous to others or to themselves, and who can not long remain in a family. Such are sent to the infirmary, and while awaiting their transfer to a close asylum it is not always possible to avoid coercion; so that, when you visit the infirmary, you may sometimes observe restraint that is no longer in use outside. I have just now a patient with such a destructive turn that the use of the belt can not be dispensed with.

"In saying that we have now almost 1,900 patients, I mention certainly more than one-fifth of all in the kingdom. The exact number (January 1,

* Falret made his remark in an address before the Medico-Psychological Society of Paris, December 30, 1861.

1894) is 1,875 — 1,005 men and 870 women, the latter being less than half. Up to 1885, the women were more numerous than the men; perhaps their decrease is owing to the more complete establishment of asylums for insane women in Belgium. New buildings for their sole use have been opened at Lede, at Velsicque-Ruddershove, at Lokeren, and the St. Anne's Asylum at Courtrai, which formerly was for both sexes, now receives no men. Finally, there is the death-rate, which (exceptionally) was higher for women than for men in 1892 and 1893. It may be added that the number of private patients (*pensionnaires*) is always much less for women than for men. The death-rate is an important consideration in estimating the condition of an asylum. Here are our figures for twenty years:

DEATH-RATE AT GHEEL — 1875-1893.

1875	7.4%	1880	8.1%	1885	7.8%	1890	6.3%
1876	7	1881	7.5	1886	8.2	1891	9.5
1877	8.5	1882	8.4	1887	6.7	1892	8.4
1878	8.8	1883	9.4	1888	6.2	1893	6.4
1879	10	1884	7.5	1889	6.3		

"During the year 1886 the smallpox carried off many patients; in 1891 and 1892 our population was diminished by an epidemic of influenza. On the whole, it will be seen that our mortality has considerably lowered since 1884; allowing for epidemics, our figures are really favorable. One cause of this was the rule made in 1881, forbidding the colony physicians from attending to private practice; this arrangement must have had a good influence on the treatment of incidental diseases. At the same time the number of section overseers was raised from four to six, which strengthened the inspecting force.

"The most opposite opinions have found expression concerning our results at Gheel; if they were really so unfavorable as some have claimed — if the proportion of curable cases recovering here were lower than elsewhere — I should myself ask that no more of the curable be sent to Gheel. I said so in 1888. It is a matter of scientific accuracy, complicated with a question of humanity. Here are the figures since 1889. You will notice that I begin with the first admissions, among which are a very large number of incurables:

RECOVERIES AND IMPROVEMENTS AT GHEEL.

FIRST ADMITTED.	NO.	MEN.	WOMEN.	RECOVERED.	IMPROVED.	RECOVERED (BOTH SEXES).
1889	235	130	105	23 m. 17 w.	5 m. 4 w.	40
1890	227	125	102	31 m. 24 w.	6 m. 5 w.	55
1891	218	120	98	28 m. 22 w.	4 m. 2 w.	50
1892	243	145	98	32 m. 14 w.	7 m. 8 w.	46
1893	193	110	83	23 m. 22 w.	3 m. 4 w.	45
Totals	1,116	630	486	137 m. 99 w.	25 m. 23 w.	236

"The proportion of recoveries is, then, 21 per cent; adding the cases of marked improvement (48 in all), which often turn out to be complete recoveries, we reach a total of 25.4 per cent, or more than a fourth part. We do not claim that this result entitles us to fold our arms. On the contrary, we do our best to improve our modes of treatment. We are building bath-

houses in the sections, so that all the outside patients may have the good of hydrotherapy; we constantly appeal to the zeal and devotion of the physicians, the inspectors, and the guardians, to make sure that curable patients are regularly seen and properly cared for.

"We come now naturally to the inquiry, What is done to perfect the supervision of the patients and their guardians? (1) The permanent board, divided in two sections, visit the whole colony once a year each, giving two visits a year, their secretary being specially instructed to look after the good condition of the cottages and chambers. (2) The medical director (Doctor Peeters) twice a year sees everyone of the outside patients. The principal physicians, with their assistants, must visit once a month the incurable insane, and not less than once a week those patients who offer some chance of cure. I may say, in passing, that one visit a week would be quite insufficient in case of many of our curables. (3) The inspectors, now eight in number, must see every patient in their section at least twice a month.

"It must not be forgotten that the insane attacked with ordinary diseases, and those who for other reasons require special care (those, too, who live with a guardian in whom we do not have perfect confidence), are seen much oftener. Thus we have for the incurables about fifty visits a year, and for the curables a much larger number. The assistant physicians send every day to the physicians-in-chief a report on their work of the day before, the route taken and the visits made; the section inspectors do the same. All these reports are handed to the medical director, who is thus daily put in possession of all that took place the preceding day in the colony. The inspectors come together in the morning at the office of the director, or of the chief physicians, to receive the needful instructions for the day.

"When the authorities and the members of the medical and inspecting staff increase their visits, the guardians are more careful, and this contributes to the decrease of accidents natural to a colony of nearly 1,900 insane persons in families. We had a patient run over by a railway train a short time since—that is the first time since 1879 (when the Antwerp and Gladbach line was opened) that such a thing has happened. The instances of pregnancy among the female patients are not frequent; one occurred at the beginning of 1888, another in the course of that year. The insane men have never been suspected of improper relations with the insane women. In Scotland, where a little more than 2,000 insane were then in private families, there was one pregnancy in 1890 and two in 1891.

"Our escapes are not many. In 1889, eight men were discharged on the register who had escaped—three in that year and five in preceding years; there were six in 1890, five in 1891, six in 1892, and six in 1893. Several of these went back into their own families, their insanity having taken a favorable turn.

"It needs no proof that the better organized supervision here influences favorably all the conditions of daily life for the patients and for their guardians. Their diet contains more animal food than twenty years ago; the houses, as well as the chambers, of our patients have been improved, and now admit air and light more abundantly; there is greater neatness inside and outside of the cottages; the clothing furnished by the authorities gives

no ground for complaint. In short, great progress has been made. Following the example of Doctor Wahrendorff of Ilten in Hanover, who himself borrowed many details from us while organizing family care in the vicinity of his asylum, we now furnish gratuitously to the guardians the bedclothes and all the furniture of the chambers that our patients occupy.

"It remains to improve the moral and intellectual standing of our guardians, and to give them professional instruction, which they need as much as do the nurses in asylums. For this purpose we often bring the guardians together, to address them on the importance of their task and their daily duties. Our lectures, already printed in the local newspapers, will this year be published in pamphlet form and widely distributed. It will also be needful to instruct more thoroughly the section inspectors, who are the head nurses of our colony; it is in contemplation to make them better able to instruct the guardians, with whom they are in contact oftener than the physicians are. This is perhaps the most important part of the work to be done by the physicians of Gheel; it is a mission they must undertake among the people of our district and the force of our establishment; a mission of word and of example, in neither of which must we be sparing. There is still much to be done for the improvement of our poor patients.

"From the statements and figures now given, we can draw the following conclusions: The function of Gheel, in the general care of insane persons, has become more and more important. Its organization is more perfect, the wheels of its mechanism run more smoothly, its useful results are more considerable. The welfare of the insane is augmented thereby. We owe this to the powerful aid of the successive ministries of Belgium, and specially to M. Lejeune, to the enlightened support that M. Lenz, inspector-general of the insane, has given us, and to the coöperation of my fellow officials. If some part of it may also be ascribed to myself, it is not enough to withhold me from devoting all my efforts to increase my share hereafter."

THE NEUROGLIA OF THE SPINAL CORD.—Brissaud (*Revue Neurologique*, October 15, 1894) takes the ground that all the cells of the neuroglia are essentially epithelial in their nature. The cylindrical cells of the ependyma of the spinal canal are merely a variety of the cells of the neuroglia, and terminate at their basal extremity, in numerous processes, similar to those of the spider cells. In cases in which the central canal is filled with epithelium, several more or less regular openings may sometimes be found in a transverse section, similar to those occurring in glandular epitheliomata; and the deep elements of the neuroglia, beneath the epithelium of the central canal, even when the latter is normal, not infrequently group themselves about a cylindrical opening. These facts the author thinks suggestive as to the mode of formation of cavities in syringomyelia.

THE HYPNOTIC EFFECTS OF CHLORALOSE.—Hascovec (*Ibid*, October 30, 1894) experimented with this substance during five months, on eighty-two patients, suffering from various forms of insanity, as well as on healthy persons. The patient's condition in each case was carefully observed before and during sleep, and on the following day. The drug was administered in

doses of from 0.1 to 1 gramme. The author found it preferable to give it in solution, best made with boiling water.

In all cases of excited patients, a sedative effect was noticed before they fell asleep, coming on in from fifteen to thirty minutes after taking the drug. The time required for the hypnotic effect was very variable, unpleasant sensations were seldom complained of, and no undesirable effects on pulse, respiration, digestion, or exertion were observed. The appetite in many cases was improved. After administration for several weeks it was often noticed in mania that smaller doses were sufficient for the same effect. This was not observed in general paresis and melancholia. The principal unpleasant effect noticed was convulsions, occurring at variable times during sleep, or on awakening. They may be either tonic or clonic, and affect any group of muscles, including the diaphragm. Defecation and micturition may occur during the convulsions. They may occur after a single large dose (0.8 to 1 gramme,) or after the administration of small doses (0.4 to 0.6 gramme) for several weeks. They occur pretty regularly, under these conditions, in the aged and general paralytics—rarely in young maniacs. Patients who suffered from them during sleep complained of no discomfort, and said they had slept well.

The course of the disease was not affected by the drug. The most satisfactory effects were obtained in young maniacs, epileptics, and alcoholics.

The commencing dose should always be small, and it should not be given in doses exceeding one gramme.

PATHOLOGY OF SYPHILIS OF THE SPINAL CORD.—Sottas (*Thèse de Paris*, 1894, abstract in *Revue Neurologique*, November 15, 1894) takes the ground that what has been described as syphilitic meningo-myelitis is not an inflammatory affection, but is due to obliteration of the small vessels of the spinal cord. Notwithstanding the free anastomoses in the cord, the smallest arteries are terminal, and necrosis follows their obliteration. This phase is followed by repair through sclerosis, with restoration of the circulation by development of new capillaries. Clinically, he distinguishes in such cases a premonitory period, followed by paralysis, usually paraplegic in form, and terminated by spastic paraplegia.

ALTERATIONS OF THE CARDIAC PLEXUS IN DIPHTHERITIC PARALYSIS OF THE HEART.—Vincent reports, in *Archives de Médecine expérimentale et d'anatomie pathologique*, 1894, No. 4 (abstract in *Revue Neurologique*, November 15, 1894), the case of a soldier, twenty-two years of age, who died in syncope on the eleventh day of an attack of diphtheria of moderate severity, the angina, in the meantime, having almost entirely disappeared. No changes were found in the viscera or central nervous system. The pneumogastric nerve was healthy. In the cardiac plexus the nerve-fibers were, almost without exception, altered, presenting all grades of degeneration, from a merely granular condition of the myeline to disappearance of all the contents of the sheath of Schwann. The axis-cylinder had entirely disappeared in some cases, and in others was paler and scarcely visible. The nuclei of the sheath were not proliferated, and the interfascicular connect-

ive tissue was normal. Remak's fibers were healthy. In Wrisberg's ganglion the cells colored poorly; the protoplasm was granular or vacuolated, and the nuclei had disappeared. The capsule was intact. The cardiac muscle presented slight interstitial alterations, but no parenchymatous lesions.

The author believes the peripheral neuritis to be the dominant lesion in this case, and is of the opinion that in cases in which the myocardium has been found diseased, the changes may have been secondary to degeneration of the nerves.

W. L. W.

CONSCIOUSNESS DURING EPILEPTIC ATTACKS.—Bombarda (*Revue Neurologique*, December 15, 1894) combats the belief that loss of consciousness during the epileptic attack is necessarily complete, and gives instances to the contrary, ranging from cases in which, while there was evidently some consciousness during the attack, there was no subsequent recollection, through one in which there was a confused memory, up to a case in which the patient remembered correctly questions asked during the attack.

W. L. W.

COLORS HEARING IN THE BLIND.—Philippe (*Revue Scientifique*, June 30, 1894, abstract in *Revue Neurologique*, December 15, 1894) found, in carefully questioning 150 blind persons, that one-third presented the phenomenon of colored hearing, a proportion largely in excess of that found in seeing persons, in whom the highest averages reported have been 10 to 12 per cent. It is not found in persons blind from birth, having no visual memories; most of those presenting it did not notice it until some time after becoming blind.

W. L. W.

THE SENSE OF HEARING IN A PIGEON DEPRIVED OF ITS LABYRINTH.—In *Philosophische Studien*, Band. IX, 4 Heft (abstract in *Centralblatt f. Nervenheilk.* October, 1894), Wundt gives an account of acoustic experiments on a pigeon whose labyrinths had been extirpated by Ewald, and came to the surprising conclusion that it reacted to sound in precisely the same way as a normal bird, except that it failed to show evidence of hearing sounds of more than 440 vibrations to the second. He was confident that there was not only an obscure sensation, but actual hearing.

The autopsy showed distinct atrophy of the auditory nerve, with slight atrophy of the cortex of the cerebellum and the occipito-temporal lobe of the cerebrum.

W. L. W.

EPILEPTIC ATTACKS FROM NASAL DISEASE.—Rjelman reports (*Berlin Klin. Wochenschr.* 1894, No. 13, abstract in *Centralblatt f. Nervenheilk.*, October, 1894) two cases in which epileptiform attacks ceased upon remedying morbid conditions in the nose.

The first was a boy, twelve years old, free from hereditary predisposition, who had suffered for two years from convulsive attacks, accompanied by feeling of suffocation, and sometimes with complete loss of consciousness. The convulsive movements began sometimes in the face and sometimes in the neck. After cauterization of hypertrophied mucous membrane of the infe-

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rior turbinated bones, in December, 1888, the attack ceased for eight months. A relapse took place in connection with a coryza. After another cauterization of the swollen mucous membrane there had been no relapse.

In the second case a boy, six years old, had been subject to convulsions for 2½ years, beginning in the left arm, sometimes without loss of consciousness, sometimes involving the whole body, with complete loss of consciousness. They often occurred in connection with asthmatic attacks. A moderate degree of swelling of the left inferior turbinated bone was found. This was cauterized. Complete recovery took place after the child had been broken of the habit of compressing the left nostril during sleep.

W. L. W.

INTOLERANCE OF ALCOHOL AND ITS PROGNOSIS.—Dr. A. Smith of Schloss Menbach, in a paper read before the meeting of the Society of German Naturalists and Physicians at Vienna (*Centralblatt f. Nervenheilk.*, November, 1894), claims that there is no craving for alcohol in the sense in which it exists for morphine. He calls attention to the difference in the effects of abstinence on those habituated to the two drugs. If one addicted to the use of morphine is deprived of the drug he soon experiences a feeling of restlessness, which in a short time rises to such distress as makes him incapable of any mental effort, and may be accompanied by alarming physical symptoms. If he now receives his accustomed dose all his symptoms are relieved; he feels, for the time, no desire for the drug, and is restored to full vigor of body and mind. The drunkard, on the other hand, becomes clearer in mind and more vigorous in body the longer he abstains from alcohol, but slight indulgence enfeebles his intellect and his power of self-control, and awakens an immediate desire for larger and larger quantities of the poison, until he is completely overcome by it, both mentally and physically.

This intolerance is, in the great majority of cases, acquired through the abuse of alcohol. In such cases the prognosis for recovery is good, provided the patient can be kept from alcohol until fully restored in body and mind, and impressed with the belief that his only safety lies in total abstinence. A single relapse into drinking habits is not specially discouraging, as it may be what is needed to convince the patient of the reality of his danger.

In a minority of cases there is an original intolerance of alcohol, dependent on a neuropathic constitution. In these cases the prolonged abuse of alcohol is not necessary in order to induce the uncontrollable desire for more on the slightest indulgence. The prognosis is less favorable in this class than the former, partly because, in many cases, it is impossible to convince the patients of their weakness.

In periodical drinkers, whose attacks he considers analogous to epilepsy, he recognized two classes. In the first, and most numerous, are included those in whom the attacks are induced by drink, a slight indulgence throwing them at once into a more or less delirious state, in which they are utterly without self-control, and of which they have afterward only an imperfect recollection. In these cases he considers the prognosis hopeful, if they can be convinced of the absolute necessity of total abstinence.

The other class comprises those subject to epileptoid attacks without loss

of consciousness, who have learned the power of alcohol to stupefy their feelings of distress. This distress can also be relieved by bromides, trional, and other similar drugs, and the only safe course for such patients is to place themselves under restraint as soon as they feel the approach of the attack.

Doctor Smith is very severe on the drinking habits of the Germans, in all ranks of society, which, he thinks, are putting them at a disadvantage in comparison with more temperate nations, and on the practice of physicians in recommending moderation instead of abstinence to those who are proved to be intolerant of alcohol.

W. L. W.

THE PATHOLOGY OF ACROMEGALY.—Professor Tamburini reports a case of this disease in *Centralblatt f. Nervenheilkunde*, December, 1894. The patient was a woman in whom the first symptoms were noticed at the age of twenty. At that time menstruation ceased, and the lower extremities began to enlarge. Enlargement of the head was noticed later, and of the arms last of all. The hypertrophy reached the highest degree in the hands and feet. Some years after the beginning of the disease she manifested delusions of persecution, with violent excitement, terminating in dementia. Death occurred as the result of exhaustion from diarrhoea. At the autopsy, apart from the changes in the bones, the only important lesion found was a tumor of the hypophysis, said by the author to be the largest on record. It measured 53 mm. in length, 39 in breadth, and 20 in thickness. The surface was slightly irregular, internally it was of grayish-white color, and uniform consistency. Histologically it resembled the normal gland in structure, except that the septa were thinner and less numerous, and there was an excess of chromophile cells in comparison with the "hauptzellen." There was no appearance of degenerative processes. The author considers the tumor an adenoma, rather than a true hypertrophy.

The author reviews the various hypotheses in regard to the pathology of the affection, and concludes that it is in some way due to the changes in the hypophysis. He suggests that there may be, in the earlier stages, a true hypertrophy, with increase of function of the gland, and that the phenomena of hypertrophy may be due to this, while the following cachexia is the result of changes which abolish its function. In confirmation of this view, he states that enlargement of the hypophysis has been found in all carefully-studied cases of ordinary gigantism.

W. L. W.

A NEW PRINCIPLE OF DIVISION OF THE CEREBRAL SURFACE.—According to Flechsig (*Neurol. Centralblatt*, 1894, No. 19, abstr. in *Centralblatt f. Nervenheilk.*, December, 1894), the convolutions of the brain may be divided into two classes: (1) Sensory centers, receiving fibers of the corona radiata, in addition to association fibers, consisting of motor, sensory, and thalamic fibers, including the visual sphere about the calcarine fissure, the auditory sphere in the posterior part of the first temporal convolution, the olfactory sphere in the gyrus hippocampi and posterior under surface of the frontal lobe, and the region of the central and frontal convolutions; and (2) centers of association, destitute of fibers of the corona radiata, and supplied only

with association fibers. These latter form four great groups—in the anterior frontal, temporal, insular, and posterior parietal regions. Each sensory region seems to possess its own motor apparatus. The superiority of the human brain seems to consist in its greater development of the centers of association, which are the latest to develop, being destitute of medullated fibers in children three months old, when the sensory centers are supplied with them. The speech centers seem to lie on the boundary between the two.

W. L. W.

CONTROVERTED POINTS OF CEREBRAL LOCALIZATION.—Charcot (J. M.) and Pitres (*Arch. Clin. de Bordeaux*, September, 1894, *Neurologische Centralbl.*, 1895, No. 4). The authors recognize as established the motor centers of the upper and lower extremities, face, and tongue. The motor center for the larynx has been fixed in dogs, mainly by Krause, as in the anterior and under parts of the gyrus præfrontalis of the two hemispheres, and this has been confirmed in apes. In human pathology there are only four unexceptional observations, those of Magnus (1837), Seguin (1877), Barlow (1877), and Garel and Dor (1890). It is very probable that there exists a symmetrical bilateral center for the vocal cords at the lowest Rolandic region, adjoining the tongue and lower facial center, but it is not absolutely proven.

Ferrier has found in apes a center for rotation of the head to the opposite side in the first frontal convolution, but this can not be held as demonstrated in man.

The conjugate deviation of the head and eyes depends on centers regulating the movements of the orbit and head. The rule pointed out by Landouzy and Grasset, that in irritative lesions the turning is toward the convulsed limbs and in paralytic lesions to the side of the injury, is admitted by our authors. On the other hand they do not recognize any definite localization as established. The view of Wernicke that conjugate deviation always occurs in connection with injury of the inferior parietal lobe or its fibers, the unilateral lesion producing conjugate deviation, and the bilateral lesion pseudo-nuclear ophthalmoplegia, lacks sufficient evidence in its support, and is rejected by Charcot and Pitres.

The center for the superior levator palpebræ in the angular gyrus, claimed by Landouzy and Grasset, is only conditionally admitted; while its possibility is recognized it needs more evidence.

While the center for the lower branch of the facial is well established, cortical lesions affecting its upper division are extremely rare. Whether the center for this is to be found in the angular gyrus, needs further demonstration. The center for the masticatory muscles in man is yet undecided; in apes, Beevor and Horsley find it in the lower ascending parietal.

The authors go extensively into the question of the relations of sensory disturbances to the motor centers, and favor rather the views of Ferrier, Bechterew, and Horsley rather than those of Hitzig and Munk. They do not find that cortical motor lesions seem to have any necessary connection with sensory disturbances.

Jacksonian epilepsy is not a disease that affords much basis for any functional topography of the cortex. A definite lesion is to be expected only in cases when there is a permanent mono or hemiplegia between the attacks.

The limited cortical atrophies after amputations are not constant. In thirty-seven cases collected by the authors they were wanting in fifteen. They seem most frequent after leg amputations, and in young persons rather than in those over thirty. The extension of the amputation has no influence. The atrophy is certainly not due to an ascending degeneration; it may be caused by functional disuse of the anatomical elements of the motor center.

In conclusion Charcot and Pitres warn against endeavors to overthrow received opinions by isolated contradictory observations. One ought rather to endeavor by the most careful investigation to find the cause of the contradictory results. As an example they refer to a case of Bidon's, where with left hemiplegia and aphasia there was found softening of the inferior half of the left Rolandic convolutions and the foot of the left third frontal. This remarkable condition was explained by the anomaly of the lack of pyramidal decussation, the degeneration of the left pyramid continuing down the left side of the cord, while on the right only a few fibers were found degenerated.

The article is an extract from a larger work on the functional localization in the human cerebral cortex, which was nearly ready at the death of Charcot, and will shortly be published.

THYROID FEEDING IN INSANITY.—Dr. L. C. Bruce, *Jour. Ment. Sci.*, January, 1895, sums up the conclusions of a clinical paper on this subject as follows:

As the result of these observations on thyroid feeding in various forms of insanity, I think I am justified in coming to the following conclusions:

1. By the internal administration of thyroid, a true febrile process can be induced, and the resulting reaction is beneficial to the patient.
2. The amount of the drug necessary to induce physiological action varies in different individuals, but it is seldom necessary to give a larger dose than sixty grains of the extract daily.
3. Excessive and prolonged administration of thyroid extract produces gastric irritation.
4. The use of thyroid in the treatment of the insane is accompanied by a certain amount of danger from induced heart weakness. This danger can be minimized and almost discounted by confining the patient to bed during treatment and for some days afterward.
5. The administration of thyroid is contra-indicated in cases of mania where the excitement is acute, the loss of body-weight rapid, and there is danger of exhaustion from mal-assimilation of food.
6. Thyroid treatment appears to be specially useful in the insanity of the adolescent, climacteric, and puerperal periods.
7. Its exhibition is frequently useful in cases where recovery is protracted.
8. In cases of long standing where there is a tendency to drift into dementia, a course of thyroid treatment sometimes gives the necessary fillip which leads to ultimate recovery.
9. Patients under treatment should be kept in as equable a temperature as possible.

10. As far as the observations on general paralysis go, the results are sufficiently satisfactory to make me hopeful of benefit if the patient is treated at an early stage of the disease.

11. Finally, such results as I have given can not fail to make an impression on those who have the responsibility of treating the insane, and are anxious to use every method to help in furthering their cure. I believe that in thyroid feeding we possess a valuable addition to our armamentarium in the treatment of certain cases of insanity.

INSANITY AMONG THE NATIVES OF SOUTH AFRICA.—Dr. T. Duncan Greenlees, *Jour. Ment. Sci.*, January, 1895, from an extended experience and observation, finds the following to be the facts in regard to insanity amongst the South African natives:

First, a great predominance of mania over other types, 321 cases of a total of 473, or a percentage of nearly 67. This accords with the theory that mania represents "a loss of the lower developed strata of the mental organism" as opposed to melancholia, which indicates a loss of the higher ones.

Melancholia was rare—only twenty-one cases, and only one very acute.

Epilepsy, both idiopathic and traumatic, is not unknown, as shown in a former paper (this JOURNAL, April, 1894), and presents no special peculiarities.

General paralysis is practically unknown amongst pure-blood natives. Only two cases were observed, one in a mulatto and the other in a Kafir female of unknown antecedents.

About 18.4 per cent were admitted in a condition of terminal dementia.

Twenty-eight per cent recovered, rather less than the percentage of the asylum as a whole, including the white inmates.

The predominant causes known were intemperance and smoking "jagga," a plant almost identical with *cannabis indica*. Masturbation was common among the natives, but whether it could be considered as a prominent cause of insanity is uncertain.

In acute cases the insanity from drink took the form of simple dipsomania.

As regards the causes of death, attention is directed by the author to the comparative rarity of deaths from cerebral disease and their frequency from chest disorders. As a rule the insane native's chance of long life in confinement is worse than that of the white. Abdominal disease is also a common cause of death.

The patients included representatives of a large number of the native tribes, but Kafirs and Hottentots predominated.

STIGMATA OF DEGENERACY.—Doctor A. Cullerrè, *Am. Med. Psych.*, LIII, January and February, 1895, discusses the subject of degeneracy as shown in the osseous deformities of the head. His paper is in fact a review of the work of our countryman, Doctor E. S. Talbot of Chicago, "The Etiology of the Osseous Deformities of the Head, Face, Jaws, and Teeth," of which indeed he speaks in the highest terms. Doctor Talbot's conclusion is to the frequency of degenerative stigmata, and their consequent trivial signification when isolated, or few in number, is indorsed, but Doctor Cullerrè goes rather farther than he in minifying their importance. He also evidently over-

looks the observation of Doctor Talbot that these stigmata are more frequent in the foreign-born population of this country than in the native, and assumes, nevertheless, that this country has been the receptacle of neurotics and degenerates from all parts of the world for two centuries, and that they have propagated a population of still more afflicted degenerates. Doctor Talbot's observation and common sense agree in the reverse conclusion. The degenerates do not form any large proportion of any emigration undertaken to better conditions. The more energetic and capable, physically and mentally, strike out; the weaklings and incompetents, for the most part, lack the energy or ability to thus attempt to improve their status. The fact of improvement of the status has moreover a tendency to change for the better the physique. The immigrants do not, as a rule, produce in their descendants an aggravation of their physical defects and stigmata. The greater number of neurotics and degenerates are found in the older settled communities, not in the new and growing ones.

The conclusion, however, at which, following Doctor Talbot, he arrives is probably a correct one, viz., that the multiplicity of these stigmata in the subject can be accepted as of importance, and that to make the almost universal biological fact of their occurrence a basis would be a gross fault in method in our study of mental disease.

TUBERCULOSIS IN THE INSANE.—Dr. E. C. Bondurant, *New York Medical Journal*, February 23d, gives the results of studies in the Alabama Boyce Hospital, as regards the frequency of tuberculosis in the insane. Out of 179 deaths that occurred among the white patients during three years and nine months, beginning October 1, 1890, fifty one (28 per cent) were due to tuberculosis, and out of 116 deaths among those of the colored race forty-nine (42 per cent) were from the same cause.

Autopsies were made in 163 cases, ninety-one white, seventy-two colored. Indications of existing, or formerly existing, tuberculosis were found in ninety-one cases, fifty white, forty-one colored. That is, existent or former tuberculosis was found in 55 per cent of the white and 57 per cent of the colored patients. Of the ninety-one tubercular cases general miliary tuberculosis (tubercular nodules in larger masses in all, or nearly all, the internal organs) existed in nineteen, four white and fifteen colored. Three of these (all colored) could be classed as acute miliary tuberculosis. In the others the disease was less disseminated, and in sixteen there were only the evidences of old healed lesions, scars, chalky nodules, fibrous bands, etc. (fourteen white, two colored).

There are at present in the hospital several patients surely tuberculous, but in whom the disease is at a standstill, and some in whom it has made no progress for eight or ten years, and some half a dozen in whom it has been, to all intents and purposes, quite cured. These are nearly all among the whites. Such cases are extremely rare among the colored inmates.

The conclusions Doctor Bondurant deduces are as follows:

“The mortality from tuberculosis is greater among the negro race than among the white.

“The disease runs a more rapid course in the negro.

"Cases of cure or arrest are comparatively infrequent in the negro.

"The disease becomes much more widely diffused throughout the bodily tissues and organs in the negro, more than a third of the fatal cases showing a general infection."

Brief details are given of the sixteen cases in which evidences of cured tuberculosis were met with at the autopsies. In conclusion the author says:

"Our figures show, then, that of 163 cases coming to autopsy, ninety-one, or 56 per cent, had at some time suffered from tuberculosis; of these ninety-one cases sixteen recovered entirely; in five more the disease had been arrested, and was making no progress whatever at the time of death from other causes than tuberculosis; and in nine other cases the disease was confined to small circumscribed areas in the lungs or other organs, pursued a very chronic course, and was not the direct cause of death. In other words, while more than half of the patients in the insane hospital at some time suffer from tuberculosis, one-third of those who contract the disease make a good stand against it, either entirely recovering, or living for a term of years without being injuriously affected by small, though unhealed, foci of tuberculosis, or dying from some other cause in the course of a very mild and chronic form of the disease."

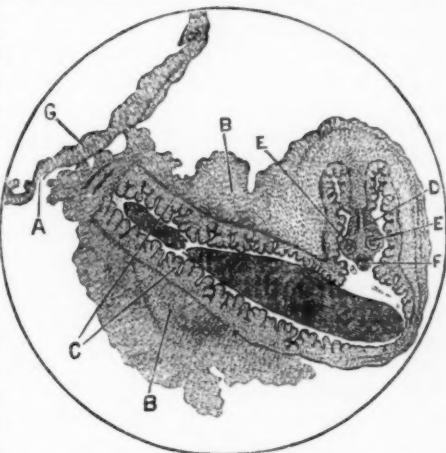
The facts shown by Doctor Bondurant, as to the greater fatality of tuberculosis in the colored race, should be kept in mind when considering his final remarks. If his patients had all been white a still better figure of recoveries or resistance to the disorder must necessarily have been shown.

The paper is a very timely one, in view of the present agitation to make the lot of consumptives still more miserable by treating them as lepers and outcasts. If one-third of the cases, under all the unfavorable circumstances of insanity and confinement with other diseased individuals, show such resistance, what ought to be expected under better conditions? The proportion of the tuberculous cases among the insane is moreover not extreme when we consider that autopsies made elsewhere show a very large infected proportion, 50 per cent, according to the records of the Paris morgue, for example. The conditions existing in insanity directly favor in very many ways the development of tuberculosis and its fatal results. They prepare the soil and the seed is practically omnipresent, and we do not see how it can very well be otherwise. The prevention of consumption will have mainly to be, as heretofore, by active strengthening the resisting powers rather than by attempting to extirpate a germ from which probably no one can perfectly escape.

DELIRE DE MAIGREUR—FASTING INSANITY.—MM. E. Brissaud and Sauques describe in the *Nouvelle Iconographie de la Salpêtrière* (notice in *Jour. des Comaisr Med.*), a form of hysterical anorexia to which they propose to give the designation of *delire de maigreur*, as the former term does not, in their opinion, sufficiently indicate the psychic disorder existing in the case. The case was that of a young woman hereditarily neuropathic, who, in consequence of a fall at the age of nine, suffered from a psychic hyperalgesia with various symptoms that at first led to the erroneous diagnosis of coxitis and later of peritonitis, and only her poor general condition of health saved her from undergoing an operation.

As she grew older and reached puberty the railleries of her associates on her slight *embonpoint* affected her to the extent of producing, in her nervously weakened condition, actual fixed impulses not to eat, connected later with delusions of various kinds, but all directly and logically connected with the primitive one. With these obsessions the pain in the thigh reappeared, the patient became absolutely sitiophobic and rapidly reduced in flesh. The return to the normal weight was very rapid in the convalescence, thus resembling the hysteric rather than the serious organic conditions of disease.

A CASE OF CYSTICERCUS CELLULOSÆ OF BRAIN: By J. M. Forster, M. D., Assistant Superintendent, Asylum for the Insane, Kingston, Ontario (*Canadian Pract.*, December, 1894).—The patient, a woman, æt. 37, Canadian, of German parents, was admitted to the Hamilton, Ontario, asylum, July 18, 1882. She had had one previous attack of insanity, of ten months' duration. She was industrious, occasionally irritable, but not a noteworthy patient, from the time of her admission until March, 1893. She then complained a great deal of headache, and looked poorly, but no especial cause could be detected. The headache was more or less persistent until November 10th, when she had an attack of epileptoid character. Three days later she had another convulsion, in which she died. The necropsy revealed four small cystic tumors about the size of a hazel-nut, in the arachnoid space, and lying in the sulci of the brain—at the posterior portion of right



parietal lobe, on the right frontal near Sylvian fissure, on the left parietal lobe, and at outer anterior corner of left frontal lobe. These cysts were not adherent, and, on being rolled out, left a little depression on the brain substance that would admit the tip of the finger. There was an unusually large quantity of serous fluid in the membranes and in the ventricles. In front of the pons there was a good deal of inflammatory exudation. Attached to the capsules of the cysts were little bodies extending into the cavity, irregular in outline, about one-quarter inch in length, and of grayish color. The cyst wall consisted of fibrous tissue with granular deposits. The inner wall



was vacuolated and its lining membrane was thrown into folds. The heads were provided with two suckers, anterior to which were the hooklets, of which there was one row around the rostellum. No other viscera contained the cysts.

THE EPILEPTIC COLONY AT CHALFONT.—*The Lancet* reports the ceremony of laying the foundation stone of the first permanent building, on November 14th, last. This colony has been founded by the National Society for the Employment of Epileptics, and from private subscription has been enabled to enter upon its work. By the munificence of Mr. Passmore Edwards, a farm of 135 acres has been purchased, and over a dozen patients have been accommodated during the experimental stage of the work. The site is considerably more than 300 feet above the sea-level, in the midst of delightful rural scenery. Galvanized iron buildings were erected at the outset, until a more permanent home could be erected, and the first colonist was received in August last. It was intended to develop a number of settlements, each of about twenty patients, rather than to construct one large building. The success of the undertaking is already assured by the improved health and contentment of the colonists. Their gain in physical condition is said to be striking, although the work has been novel to them. Their fits have in almost all cases become less frequent, and in every case less severe. All are confirmed epileptics, with history of frequent fits, but for four weeks not a single fit occurred during working hours. It is earnestly to be hoped that the auspicious beginning of the new venture will not fail of continuance from lack of funds.

J. M. M.

A CASE OF DEVELOPMENTAL GENERAL PARALYSIS.—Drs. John Thomson and W. R. Dawson report a case (*The Lancet*, February 16, 1895) of general paralysis of the insane in a child. The patient, a girl aged eleven years and five months, was brought to the dispensary of the Royal Hospital for Sick Children, Edinburgh, December 7, 1892. The mother complained that the patient was very nervous, constantly shaking, and that she was quite unable to do any lessons. The condition had lasted for more than nine months. The father was a strong, healthy-looking man, admitted occasional intemperance in drink, but denied venereal disease. His family history was free from nervous or mental disease. The mother was nervous and excitable, and had the reputation of intemperance. Her mother's brother became insane in old age. The patient was the youngest of seven children. One had died from hydrocephalus; two (immediately preceding the patient) were still-born; the other three were alive and healthy, with the exception of the eldest, who suffered from "abscesses." The child had no symptoms suggestive of syphilis as an infant, and she had always been looked upon as strong and healthy. Failure of intelligence in school exercises was the earliest noted indication of disease. From comparative mental brightness she became stupid, could not do the very simplest sums, and it seemed impossible to teach her even a single line of poetry. Her speech became slow, and her handwriting irregular, the strokes being "thin and like a saw." She had to be told over and over again to do the simplest things, and had to be shown exactly how to do them—for instance, she tried to sweep the floor with the wrong end of the broom. Her hands were very unsteady. Examination showed an undersized and poorly developed child. The cranium, palate, teeth, and ears were noticeably abnormal. There was marked absence of expression about the upper part of the face. Pulse,

96 to 100 and regular. She walks with legs rather far apart, bends the knees very little, and stands with shoulders forward and arms hanging down in front. Her muscular movements are accompanied by a coarse tremor, which is distinct in the hands, in the handwriting, in the tongue, and lips, and lower jaw. The voice is slow and hesitating. The pupils react very slowly, and only slightly to light and accommodation; the left is somewhat larger than the right. Her mental condition is very dull, is easily frightened, and starts and trembles if spoken to suddenly or roughly. During the first few weeks she was under observation she had many hallucinations and delusions. At night she usually lay awake a long time, talking to herself loudly, often repeating words over and over again. In February (1893) it was noticed that on percussion on the cheek below the molar bone there was marked "facial irritability" ("Chvostek's symptom") on both sides, precisely similar to that obtained in cases of tetany and laryngismus. In March she began to have incontinence of urine. In April she became more irritable, and was often restless and noisy at night. For two days she refused to open her mouth, and was fed forcibly with a spoon. In June she had prolonged fits of screaming, with active hallucinations and illusions, and could not be induced to respond to requests to protrude the tongue or extend the hand. In July she had several attacks, in which she fell over to the left side and was weak and confused. In the autumn she became much more stupid, and did not recognize her parents. She had complete incontinence of urine and faeces. With occasional periods of brightness and improvement, she became gradually more enfeebled mentally and physically, and July 22d of the following year (1894) she died.

At the necropsy the following conditions were presented: The inner and outer tables of the skull were thickened, and there were adhesions of the dura along the superior longitudinal sinus. The sinuses contained red and white clot, and were engorged. The dura was everywhere thickened and in some places was separated from the bone by a false membrane (*pachymeningitis interna*); it was also lined with a false membrane over the whole extent of the cerebrum. This membrane was adherent to the arachnoid all over the vault. The pia arachnoid was thickened and congested, and studded with granulations. The pia mater was universally adhesive to the cortex over the cerebrum, and there was an attachment between the anterior lobes of the brain. There was marked superficial atrophy of the brain, and the encephalon, as a whole, was abnormally small. The gray matter was softened. Fine granulations were visible on the floors of the lateral ventricles, whilst that of the fourth ventricle was covered with a great profusion of coarser ones. The choroid plexuses were congested and contained cysts. Microscopical examination revealed thickened pia mater, and the tissue immediately underlying it was fibrillated and contained numerous spider cells. The latter were also visible in the deepest layer of the cortex, and they were detected in the white substance. The nuclei of the capillaries and of the adventitia of the arterioles were proliferated, and the perivascular spaces contained masses of pigment. The pyramidal cells were in advanced stages of degeneration. Degeneration processes were also discovered in the cord and nerves.

J. M. M.

THE HORNS OF AMMON IN EPILEPSY.—In his thesis for the doctorate in medicine in Lund University, Neander gives a detailed account of his examination of Ammon's horns in three cases of epilepsy and one case of idiocy with epileptic attacks. In the first case, most interesting from an histological standpoint, Ammon's horn on the left side appeared normal macroscopically, but microscopically was found to be the seat of morbid alterations. The right horn showed the same alterations, but visible to the naked eye. The difference in size between the two was considerable; the breadth of the stratum of nerve-cells, for example, being 120 millimeters in the left and 100 millimeters in the right, while the length of the latter was diminished at least one-half. The rim of the fascia dentata, at its usual point of union with the subiculum, was almost entirely free.

In the second case, microscopical examination showed in many places, as on the lower side of the gyrus hippocampus and the adjacent convolution, a thickening of the pia and marked alteration of the superficial layer of the neuroglia, the fibrils of which were longer and thicker than normal, and the nuclei increased in number. The stratum of nerve-cells in the left horn was considerably thinner and less supplied with nerve elements than that on the right side.

In the third case the changes were particularly marked in the fascia dentata and in the nerve-cells of the left horn, the stratum being half as wide as on the right side. In the fourth case, the ball-shaped, swollen anterior extremity of the right horn was twenty millimeters in breadth, that on the left eighteen millimeters. A condition of atrophic degeneration of the under portion was observed. The alterations in the brain substance consisted principally of limited proliferation of the neuroglia, breaking down of ganglion-cells and myelin-fibrils, and the formation of cavities between. There was in several places a tightening of the adventitia of the blood-vessels, a hyaline degeneration of the walls of the smaller vessels, with narrowing of their lumen or diminution of the number of capillaries. The author comes to the conclusion that, as Holm has already stated, alterations in the cornua of Ammon may more frequently be observed in individuals not suffering from epilepsy than has hitherto been supposed.—*The Universal Medical Journal.*

"PHRENOSIS PELLAGRÆ."—In medico-psychological classification this term is peculiar to Italy, as the thing signified is almost exclusively Italian. It signifies the mental degeneration due to pellagra, that erythematous affection so common in the delta of the Po, and due to the consumption of unsound maize. Hebetude, resulting in absolute dementia, represents the initiatory and the closing symptoms of the malady, though there are cases in which hallucination, prompting to eccentric and even violent, not to say lethal, acts, is the outcome of the progressive degeneration of the sensorium. A grave recrudescence of this disease is reported from Rovigo, and the Italian government is actively subsidizing the provincial council in combating it on the one hand and adopting prophylactic measures on the other. The houses in which the victims to the "frenosi pellagrosa" are under treatment are being reinforced in *personnel* and in the alimentary as well as therapeutic means of cure; while all the syndics (mayors) of the towns have

received an official circular indicating the hygienic, and especially the dietetic, régime to be applied to the peasantry of the affected or threatened districts. "Locande sanitarie" (sanitary stations) are established at the more severely visited centers, amply provided with wholesome, sustaining food, and in addition to these the "cucine economiche" (cheap kitchens) are open to all who can afford to avail themselves of the same, or to whom the charitably disposed have furnished tickets admitting them. The water supply—an important factor in combating pellagra, particularly in the marshy levels of the Polesine—is being attended to in the communes, and the dwellings of the laborers ("case coloniche") are periodically inspected and put in order. All this, be it noted, is inspired by the exacerbation of a malady epidemic in that region, and illustrates once more the fatal policy of so many southern provinces in waiting till the enemy is attacking in force instead of forestalling him by carrying the war into his camp.—*The Lancet*, March 2, 1895.

HERPES ZOSTER CAUSED BY MENTAL DISTURBANCE.—In *The Lancet* of October 13, 1894, Dr. Antony Roche reports the following case: "There are few diseases more interesting from a physiological point of view than herpes zoster—the common shingles. Looking over my notebook I have been struck with the frequency of its occurrence after some cause producing mental depression or anger. I find this has been noticed by others." Bateman says: "Like erysipelas, it has been ascribed by some authors to paroxysms of anger." Schwartz saw three cases which followed violent fits of passion. I have noted the following cases: 1. A woman suddenly received the news that her husband had been ordered to India. The next morning the herpes was noticed on her left side. 2. An old man learned that a firm in which he was interested had failed. That evening the spots appeared on his left side. 3. A woman was much distressed at the sudden illness of her son. On the following morning the herpes had appeared. 4. A child six years of age, of remarkably equable temperament, was disobedient and sent to bed. She cried very much and the next morning the herpes was noticed on her left side. 5. Recently a woman consulted me whose only son was shortly to be married. She complained of pain in her left side and a rash, which was that of herpes. She herself ascribed the rash to the grief at the parting from her son. I do not know whether it would be right to say *post hoc ergo propter hoc* in all these cases, but I do not think it would be unreasonable. There are many examples of mental disturbance producing sudden trophic changes.

J. M. M.

TUMOR OF PONS AND LEFT CRUS CEREBRI.—In *Brain*, Doctor Sharkey records a case in which several points of interest occur. The patient was a sailor aged forty-three, whose symptoms commenced three and a half months before admission, with perspiration so profuse as to become the subject of general remark. He also became rather stupid, and used to knock against objects on turning to his right. He soon became deaf in the right ear, and suffered from numbness all down the right side of the body. On admission he was found to have right hemianopia and paralysis of the superior rectus

in each eye. The right pupil was larger than the left, but there was no optic neuritis, and the pupils reacted both to light and during accommodation. There was complete deafness of the right ear. Over the whole of the right side of the body there was not only subjective numbness, but actual impairment of sensibility to the different forms of stimulus. Taste and smell were not materially impaired, and as regards motor power, only in the right hand was there slight impairment. The reflexes showed no obvious change, and although memory was said to be defective, it was not distinctly impaired. Articulation was rather indistinct, and there was a slight tendency to stammering. A peculiarity in gait which was observed was such as might have been due to ankylosis of one ankle, following an old injury. There was no incoördination or giddiness, and profuse perspiration continued, but without any signs of visceral disease. The patient slowly but steadily became worse. The most marked change consisted in loss of memory and mental power, and in time he became so forgetful of words as to be unable to carry on a conversation. In February—a month after admission—there was distinct weakness of the lower part of the right side of the face, and in March distinct optic neuritis manifested itself, and alexia and agraphia were also present. His mental and bodily condition became weaker, and he died comatose about five months after his admission. At the necropsy the brain was the only organ which was found diseased. There was found to be a large tumor of the left crus cerebri, and the left optic tract was flattened by the pressure. The tumor occupied the region of the corpora quadrigemina and the roof of the aqueduct of Sylvius, and also filled the whole of the space between the third ventricle and the upper border of the cerebellum. There was practically no involvement of the hemispheres. The interesting points in the case are the onset with profuse perspiration, the continuance of this, when the patient came under observation, and the marked failure of mental power and the power of speech, while the left hemisphere and the corpus callosum remained intact. It is also curious that the affection of the third nerves had led only to impairment of the upward and very slightly of the downward movement, and that the nerve on the side of the tumor was not more affected than that on the side opposite to it.

—*The Lancet*, September 22, 1894. J. M. M.

THE MENTAL CONDITION IN CHOREA.—Dr. A. Breton (*L'Union Médicale*, October 27, 1894), after an investigation of a large number of cases of chorea, has arrived at the following conclusions in reference to the condition of the mental powers in patients suffering from this complaint. He has found that the majority of cases of chorea are complicated by perversion of mental processes more or less marked. The psychical symptoms may be divided into two groups; in the first he places those which include alterations of moral sensibility, of character, of intelligence, want of attention, and loss of memory and of affection for those nearly related to the patient; and in the second those which occur more rarely, such as "night terror," hallucinations, and what Doctor Breton terms "*folie choréique*." The first class of phenomena are so common as almost to form one of the ordinary symptoms of chorea. Fright, terror, and hallucinations are rare, whilst

"folie choréique" is very exceptional. Hallucinations are generally observed only at night, just when the patient is falling asleep, but they may continue for some time, interrupting or preventing sleep; those of sight generally predominate, but more rarely there may be observed those of hearing, taste, smell, or even touch. Affections of speech may also be mentioned, affecting the muscles of the tongue and lips, not caused by chorea, but due to mental causes. "Folie choréique" may take the form of simple mania, of delirium, of mania with hallucinations, or revert to a melancholic form, with profound depression and suicidal tendencies. Recovery from the mental symptoms in acute cases of chorea usually follows the cessation of the motor symptoms caused by the chorea; they cease when convalescence from the primary disease is established. But the neurosis may pave the way for permanent psychical trouble, such as moral degradation, mental alienation, and dementia. Doctor Breton, however, believes that the more pronounced psychical phenomena met with in the course of chorea are not directly due to the disease, but only receive from it special characters. They are complications rather than symptoms proper, and hereditary taint can always be traced; and he would look upon them as mental phenomena occurring in patients who have a hereditary tendency to such attacks which have been precipitated by the chorea.—*The Lancet*, November 17, 1894.

J. M. M.

SUGGESTION AS A REMEDY AGAINST DELIRIUM IN THE INSANE.—Doctor Voisin of the Salpêtrière Hospital calls attention to the curiously rapid and satisfactory action of hypnotic suggestion in dispelling delirium and hallucinations in the insane. Directly suggestion is completed calmness succeeds to the previous agitation. Very frequently, however, hypnosis seems to be an impossibility in the insane. Doctor Voisin surmounts the difficulty by previously inducing partial anæsthesia by small doses of chloroform. Another useful preliminary proceeding is in the administration of a very strong galvanic shock. The object of these preparatory measures (anæsthesia and electric shock) is to render the patient momentarily insensible to his mental preoccupations. The opportunity is then seized to hypnotize him in the usual manner.—*The Lancet*, October 20, 1894.

J. M. M.

RIGHT HEMIPLEGIA WITH EPILEPSY TREATED BY TREPHINING.—At a meeting of the Medical Society of London, February 11, 1895, Dr. Outtersson Wood and Mr. Cotterell showed two patients who had been afflicted with right hemiplegia and epilepsy, who had been treated by trephining. The first patient, a female aged three years, was paralyzed on the right side. When one year old she had a fall, and afterward had an epileptic seizure; several more fits followed, always beginning in the thumb and fingers. She had been trephined over the center for the hand, and there had been no return of fits since the operation. The second patient, a girl aged twelve years, had been paralyzed since birth. There had been a difficult instrumental labor. There was no paralysis in other children of the same family. There was rigidity of the right hand, arm, and leg, with wasting of the leg and eversion of the foot. Epileptiform seizures commenced last April, preceded

by a well-marked aura of numbness and tickling of the thumb. She was trephined over the hand center last September, and since then there had been no fits; the hand and arm were less rigid, and she walked better.

Mr. Cotterell said that in the first case he found a cyst connected with the arachnoid, which was probably an old hemorrhagic extravasation. In the second case the dura mater was found to be thickened, but the arachnoid and brain were healthy. He did not interfere with the exposed cerebral cortex.—*The Lancet*, February 16, 1895.

THE REMOVAL OF BONE IN THE MICROCEPHALIC SKULL.—In a paper on the microcephalic or idiot skull and the microcephalic or hydrocephalic skull, contained in the recent number of the *Journal of Anatomy and Physiology*, Sir George Humphrey remarks that in none of the nineteen specimens of idiot skulls, of which details are given, is there anything to suggest that the deficiency in the development of the skull was the leading feature in the deformity, and that the smallness of the bony cerebral envelope exerted a compressing or dwarfing influence upon the brain, or anything to give encouragement to the practice lately adopted in some instances of removal of a part of the bony case, with the idea of affording more space and freedom for the growth of the brain. In these, as in other instances of man and the lower animals, the brain growth is the determining factor, and the skull grows upon and accommodates itself to the brain, whether the latter be large or small. This view is corroborated by the fact that, in the brains taken from the two idiot skulls in St. Bartholomew's Hospital, as well as in other instances, as those shown by Professor Cunningham, the convolutions of the brain give no indications of compression, but are free, outstanding, and separated by well-marked sulci.—*The Lancet*, February 16, 1895.

MANIA FOLLOWING PLEURISY.—At a meeting of the Leeds and West Riding Medico-Chirurgical Society, February 1st, Mr. Bates read the notes of a case of acute mania following dry pleurisy, in a girl aged twelve years. The maniacal symptoms came on the day following the reduction of the temperature to normal. The maniacal symptoms quickly gave way to treatment with sedatives, but the delusions continued a week before they disappeared. The family and previous history pointed out instability of the nervous system in the patient, and accounted for the post-febrile mania following what was only a mild attack of mania.—*The Lancet*, February 23, 1895.

IMPULSIONS IN THEIR RELATIONS TO CRIME.—V. Bourdin, *These de Paris*, 1894 (*Gaz. Med.*, December 15th). Among the peculiarities of those known as degenerates, M. Bourdin gives special attention to the so-called obsessive impulsions, and seeks to know how far it may overcome free will so as to impel an individual intentionally correct to the commission of crime. He reviews a large number of cases of this nature, and finds from his studies that it is a rarity in confirmed insanity, but occurs especially in the hereditary degenerates, the epileptics, in alcoholics, in hysteria, alcoholism, idiocy, dementia, and imbecility. The crimes of lunatics, properly so-called, are

rather the result of delusions than of impulsions in the proper sense of the word.

Impulsion always implies irresponsibility, as it is involuntary, and caused by what may be considered as a true cerebral reflex.

DEMONOPATHY.—Bonfigli, *Rivista Sperimentale*, XX, iii and iv, December 25th, reports in full the case of a woman, aged twenty-nine, who was under the delusion that she was possessed with a devil, and who was cured in a few days, mainly by suggestive treatment. He analyzes the subject carefully in all its relations, and deduces the following conclusions:

1. Our case of demonopathy can not be classed among those of hysteria. In it we have assuredly a morbid fact of the class that properly fall under the head of fixed ideas, or paranoia rudimentaria.

2. Fixed ideas, or paranoia rudimentaria, originates in brains that are defective or deficient by reason of original or acquired defects, as the result of an intense impression, new and in accordance with the relative individual tendency, which acts either as direct suggestion, or provokes a process of auto-suggestion.

3. The same physio-pathological mechanisms that acts in the pathogenesis of paranoia is effective here, but in the former there is a brain not merely weakened and defective, but more or less profoundly altered.

4. The choreics of the middle ages, the demoniacs of the seventeenth century and later, the convulsionaries, the ecstasies, the first followers of nearly all the religious sects (and perhaps also of the politico-social ones) were not essentially or necessarily subjects of grand hysteria, or of other neuroses, but were especially suggestible individuals, who, according to the original or acquired conditions of their cerebri, and under the influence of very profound suggestion, became rudimentary paranoiacs and true paranoiacs.

5. In this class we certainly must include the hysterics and those affected with other neuroses, such being readily suggestible; and the hysterical paranoiacs, from their existing complication, would naturally be the ones that would first attract attention, and those in whom the suggestion would have most force, but the great mass of the patients were weak mentally from physical and psychic causes, and presented no traces of hysteria and allied conditions.

6. The treatment of demonopathy that has not reached the grade of paranoia properly, so-called, and therefore represents only a fixed idea or rudimentary paranoia, ought to consist essentially in the employment of such hygienic and therapeutic measures as can strengthen the system, including the brain, and in moral treatment designed to cut off the continuance of the suggestion that was the starting point of the fixed idea (isolation), and opposing it with new suggestions (suggestive treatment).

BLOOD TOXÆMIA AS A CAUSE OF THE EPILEPTIFORM AND APOPLECTIFORM ATTACKS IN PARESIS.—The following are the hypothetical conclusions of a communication by M. Legrain to the Society Medico-Psychologique of Paris, November 26th (*Ann. Med. Psych.*, January-February, 1895):

1. For the interpretation of the epileptiform and apoplectiform attacks of paresis, it is perhaps well to consider them separately from the lesions of the

nervous centers, and to see in some of these manifestations the results of a grave disorder of nutrition dependent upon lesions of other organs than the brain and cord.

2. In general paralysis, and especially in general paralysis with these severe accidents, the toxicity of the blood may be increased. In such event toxæmia will exist. This toxæmia reveals itself clinically in symptoms analogous to those of uræmia, convulsive or comatose, which we call apoplecticiform or epileptiform attacks.

3. The blood serum is the vehicle of the poison. Injected into an animal in small amounts, it causes symptoms resembling those produced by the intravenous injection of convulsivant urine.

4. This uro-toxæmia finds its origin not only in renal lesions, but is often observed also with lesions of other organs, such as the liver.

5. The paretics who are free from these attacks are those who retain to the last their renal permeability.

6. These convulsive accidents, evidences of more or less profound anatomical visceral disorders, are proof that paresis is not a disease exclusively of the nervous system. We know indeed how numerous, aside from the polyneuritis recently noticed, are visceral lesions in the paretics. We know, also, the frequency of arterio-sclerosis, which may be considered as the common bond between all the observed visceral lesions.

7. Lastly, this conception of the pathogeny of the *ictus* has a certain practical utility. If, indeed, we are not and have not been able to apply a curative treatment to the established disease, we can, at least, palliate its severer symptoms. The principal indication will be to relieve the blood of a portion of its toxic products by free leeching. This, which is not dangerous in individuals still robust, has so far given me excellent results, and some of my patients an unexpected relief. May I add that, from this therapeutic experiment, the treatment is confirmatory of the hypothesis here advanced.

ALCOHOLISM.—The following are the conclusions of a communication by Sommer (of Würzburg), read at the meeting of the S. W. German Society of Alienists, at Karlsruhe, November, 1894:

1. It is not proven that alcohol is a waste reducer for the tissue changes of the organism and a strength giver to the nervous system.

2. Chronic usage of alcohol can produce with a series of nervous disorders with anatomically demonstrable alterations of the nerve tissues.

3. Experimentally it is shown that alcohol causes an embarrassment of the psychic functions with initial exaltation of certain motor ones, even in quantities within the limits of moderation.

4. From the experimentally demonstrated action of alcohol follows the whole series of clinical types of alcoholism; among these delirium tremens holds a special place.

5. This action chiefly accounts for the augmented criminality of those under the effects of alcohol.

6. A degenerative effect of alcohol on posterity is not demonstrated.

7. The use of alcohol as medicine should be limited to those cases where

the physiological action of alcohol is clearly indicated. (Reduction of psychic functions, increase of motor excitability, and suphoria.)

8. The incurability of alcoholic cases depends, in most instances, not on the nature of the disorder, but on the tendency to drink from the surroundings.

Dr. A. Smith (Marbach) declared that the alcohol question was one of the very greatest social importance. Drink not only cost the working classes immense sums without any corresponding returns, and encouraged poverty and discontent, but it increased criminality by more than 100 per cent.

Its effects on health were not less serious. At present every ninth male death was immediately due to this cause, and it was associated with other causes in many more. Twenty-four to 40 per cent of male lunatics owed their condition exclusively to this cause, and the notable increase of insanity is almost altogether due to alcohol.

Where comparison can be made between drinkers and abstainers, as in the Indian army, it is seen that the latter furnish only half as many cases of sickness, and the duration is only one-third as long. Five times as many drinkers as abstainers die from cholera, and Thomas has shown that alcohol in moderate quantity increases the liability to cholera in rabbits six fold.

The adoption of abstinence in the treatment has caused the disappearance of a series of conditions formerly regarded as incurable, showing thus their alcoholic nature.

Heredity of alcoholism he could not consider as demonstrated; the cases were generally in psychopathic families, and the influence of bad example not sufficiently considered. But that the continued excessive usage of alcohol tended to a reduced psychopathic level that might be transmitted to descendants in an augmented degree, and that this plays a special role in epilepsy, he holds as undeniable (unabriefvbae).

As regards treatment, he advises a residence of at least six months in an institution with rigid rules of abstinence. He objects to compulsory detention, and holds it as needless.

DEMENTIA PRÆCOX JUVENILIS. — Malschin Society of Alienists and Neurologists of Moscow, 1894, *Neurol. Centralbl.*, 1895, No. 3, on the basis of thirty cases observed, and others in medical literature, comes to the following conclusions:

1. Among the hereditary insanities there exists a special type marked by early appearing and rapidly progressing dementia (dementia præcox).
2. These patients exhibit signs of physical and psychical degeneration at the age of seventeen to twenty.
3. The form of psychic disorder that passes over into this early and progressive dementia is generally of a depressive type.
4. Other forms, however, may precede this form of dementia.
5. These degenerates belong to the type known as *cerebrauz*.

AMUSIA (*Musical Aphasia*). — Edgren, *Deutsche Ztschr. f. Nervenheilkunde*, VI, Hf. 1 and 2, December, 1894. Conclusions:

1. Through pathological processes of one kind or another, the musical

faculty, as well as the power of speech, can be wholly or partially destroyed, and in the latter case dissolved into its component parts, whence arise special forms of amusia.

2. The different forms of amusia possess a certain degree of clinical independence, both in their relations to each other and to aphasia.

3. The clinical forms of amusia seem to be analogous to those of aphasia and are often, but not necessarily, accompanied by the latter.

4. Amusia may occur without aphasia and aphasia without amusia.

5. It is probable that the different forms of amusia, at least those possessing an anatomical independence, can be localized near the seats of the analogous aphasia forms, but not exactly in the same.

6. For a special type of amusia, especially for tone deafness, that the localization is in the first, or first and second, convolutions of the left temporal lobe, anterior to that causing word deafness, seems highly probable.

SALINE SOLUTION HYPODERMICALLY IN INSANITY.—Dr. George F. Keene of the Cranston Asylum, R. I., *Boston Med. and Surg. Jour.*, October 4th, discusses the use of normal saline solution hypodermically as a therapeutic measure in insanities due to the auto-infections. The theory is, to dilute and wash out the noxious alkaloids by this method. He claims priority for himself in this method for this purpose, and says: "The new departure to which I would call your attention, and in which we believed ourselves to be the first in the field, if not the pioneer, is the use of the salt solution subcutaneously in large quantities (not less than two quarts daily) for the systematic treatment of those forms of insanity believed to be of somatic origin, or, in other words, due to auto-infection or intoxication. As yet we are treating but one case, but the improvement has been so marked that there is great ground for encouragement for the continuance of the treatment."

He briefly details the case, in which, at the time of writing, the treatment had been suspended on account of some local inconveniences (œdema). As he says in conclusion, one case, or part of a case, is insufficient to prove the value of the treatment. His paper is perhaps, therefore, a little premature, but it is suggestive.

THE EFFECT OF THYROID FEEDING ON SOME TYPES OF INSANITY.—In *The Lancet*, for October 13, 1894, Drs. S. Rutherford MacPhail and Lewis C. Bruce give the results of observations upon thirty patients in the Derby Borough Asylum, who were fed with thyroid gland. The forms of mental disease comprised mania, melancholia, general paralysis, syphilitic insanity, alcoholic amnesia, delusional insanity, puerperal and lactational insanity, and insanity at the climacteric. None of the patients were myxœdemic. The patients were weighed, placed in bed, and observations of the temperature, pulse, blood, and urine were made previously to the administration of the gland and after its physiological effects had been developed. Thyroid tabloids were given thrice daily, in doses ranging from thirty to sixty grains, either with the ordinary meal or immediately afterward. The drug was continued in most cases until a feverish condition was induced for several days. The mental effects varied greatly. Some patients became

depressed, others emotional, laughing immoderately, or weeping without cause. Some became irritable and had outbursts of impotent rage; while, on the other hand, irritable, morose, and bad-tempered subjects showed marked amelioration of these tendencies. Mental improvement was noted in several cases to occur suddenly while the patients were under the influence of thyroid feeding; in others, this improvement did not set in until the period of reaction was well advanced, and was frequently preceded by a period of irritability.

Results of Treatment.—1. Mania: four cases; two recovered, one was relieved and one temporarily improved and then relapsed. 2. Melancholia: five cases; two recovered and two were relieved, of whom one relapsed and one was not improved. 3. Syphilitic insanity: one case; no improvement. 4. Alcoholic amnesia: one case; no improvement. 5. Chronic insanity: seven cases, ranging from one to ten years' duration; two recovered, one was relieved, and four were not improved. The two recovered cases were those of females. One was of four years' duration. A few days after treatment had commenced she improved, and after a period of irritability during convalescence was discharged. Since her return home she has made further improvement, and is now quite well. The other case was of over two years' duration, and was regarded as hopeless. After treatment she gradually improved, and was discharged recovered at the end of four months. 6. Puerperal insanity: four cases; all made good recoveries. 7. Lactational insanity: two cases; one recovered, one was not improved. The recovered case had been five months under asylum treatment without any benefit. After a course of thyroid feeding she made a satisfactory recovery. The other case improved physically, but there was no corresponding mental change. She had been insane for more than a year. 8. Climacteric insanity: three cases; all recovered. One of these cases had been insane for over one year and was making no progress prior to thyroid treatment. 9. General paralysis: three cases; one was relieved, one temporarily improved, the third was in no way altered. Of the thirty cases, ten were men and twenty women. Of the ten men, one recovered, five were relieved, and four were not improved. Of the twenty women, thirteen recovered, two were relieved, and five were not improved.

The observers enter a caution against thyroid feeding in cases of acute mania and melancholia where there is rapid loss of body-weight and mal-assimilation of food; also in cases where there is active phthisis or valvular disease of the heart. They conclude that the administration of thyroid gland, under proper precautions, is a valuable addition to the resources of treatment, and that the production of a true febrile condition and the resulting reaction are of benefit in some cases.

J. M. M.

THE BOSTON MEDICAL AND SURGICAL JOURNAL of January 10, 1895, gives an interesting study of a cerebellar tumor by Eskridge, in which the ante-mortem localization study was more than usually well verified by the post-mortem section. A mixed sarcoma of the middle lobe of the cerebellum was found, implicating the left side more than the right, and by its pressure producing eye-symptoms, distention of lateral ventricles, and involving the nuclei around the sylvian canal.

BOOK REVIEWS.

Gedenktage der Psychiatrie und ihrer Hilfsdisciplinen in allen Ländern. Von DR. HEINRICH LAEHR. Vierte vermehrte und umgearbeitete Auflage. Berlin, 1893.

This work, already known to alienists in its former editions, now appears in a revised and very much enlarged form. The idea of furnishing in this shape a chronology and record of the important events of the history of psychiatric medicine, together with a dictionary of its noted representatives, is a good one, and has been successfully carried out in the present volume. The growth of the work is shown by the fact that while the first edition contained only 949 separate entries, the volume before us has no less than 2,637, an increase of nearly 200 per cent.

While we note some omissions of data of sufficient importance to merit incorporation, on the whole the book gives a very fair general oversight of the history of psychiatry throughout the world. Indeed the increase is largely, as Doctor Laehr remarks in his preface, in American as well as in German information, and in obtaining this he has had the coöperation of the late Dr. Pliny Earle, than whom he could have had no better collaborator.

It is natural that a work like this should increase in size with every successive edition, and for its future dimensions there is a rather formidable outlook. It may possibly be well in the future to issue it as a quadrennial or perhaps a decennial publication, making it a serial rather than a complete record with each issue.

Mental Diseases: A Synopsis of Twelve Lectures Delivered at the Hospital for the Insane, Toronto, to the Graduating Medical Classes. By DANIEL CLARK, M. D., Med. Supt., etc., Toronto.

This book, written in an able and attractive style, is intended, Doctor Clark states in his preface, as an introduction to the study of mental diseases, and as a manual for the senior medical student and the busy practitioner who can not perhaps find the time or opportunity to go more deeply into the mysteries of psycho-pathology. It, therefore, makes no extravagant claims and disarms any criticism of lack of fullness or elaboration. The accomplished author has sought to be practical throughout, and in this he has succeeded in the parts of his book directly relating to the subject in hand. The introductory chapters on the brain and the nature of mind are too brief to cover their subjects, and of course could not present fully the most recent facts and theories.

In the remainder of the work we find little except what we can commend. The classification is the author's own, but it is not of much use to criticise classifications, and this is as good as many others. The descriptions of the clinical features of the forms of insanity are concise, and are in the main sufficient and up to the claims of the work. What we would say, in

criticism, is that the finer gradations of the species are too little noticed, such, for example, as hypomania and simple melancholic depression.

The remarks on treatment, the medico-legal bearings of the subject, heredity, etc., are quite full and able. The book is a contribution from the experience of a skilled alienist, and will afford many valuable suggestions to the practicing physician who has to deal with the facts of actual mental disorder.

Mental Nursing, or Lectures for Asylum Attendants. By WILLIAM HARDING, M. D. (Ed.), M. R. C. P. (Lond.), Assistant Medical Officer, Female Department, Berrywood, Northampton. Second edition. London: The Scientific Press, Limited, 428 Strand, W. C., 1894. Pp. 156.

This manual is insufficient for use in the entire training of attendants for mental nursing, while at the same time the introduction of chapters on anatomy and physiology, hygiene, and sick nursing would seem to indicate that the author intended it as an all-round text-book for the attendant-nurse. If not so intended, but designed merely to prepare for more extended study, the arrangement of the book seems incomplete.

Attendants upon the insane are frequently compelled to act promptly and independently in some grave emergency, and their teaching should be calculated to develop perception, quicken judgment, and cultivate tact. There is too little food for development in these lines in Doctor Harding's book. In explaining mental processes, definitions are few and vague, and not well calculated to aid the attendant in exercising enlightened discrimination in dealing with deviations from the normal, or judiciously adapting means to ends in the management of cases.

We note some lack of elegance and accuracy in style—e. g.: "When a patient chokes, an attempt should be made (while assistance is being sought) to hook out the food" (p. 33). "As a rule, except in the depressed cases, the general paralytic gives no trouble with his food" (p. 104).

In the chapter on "Management of the Insane," there are some pleasant and helpful suggestions looking to the considerate treatment of patients. The British plainness of speech comes out in the expressions "dirty cases" and "driveling lunatic," which we think are less calculated than is desirable to develop in the minds of attendants a respectful attitude toward their patients.

Transactions of the College of Physicians of Philadelphia. Third series, Vol. XVI. Philadelphia, 1894.

One of the most interesting features of this volume is the discussion on the registration of tuberculosis, the conclusions of which, from the well-known names of those who partook and their scientific reputation, have a certain authority. It is perhaps needless to state that the demands of those in favor of compulsory registration were voted down, and that no measure beyond the disinfection of apartments where consumptives have lived and died, together

with strict attention on the part of attending physicians to disinfection of sputa, were recommended. The demands of the ultra germ-dreading anti-septicists would not only practically make the undoubted victim of tuberculosis an outcast and *quasi* criminal, but would throw suspicion on the vast majority of the population who are all inevitably more or less exposed to infection, and, as the records of the Paris morgue show, actually infected in the proportion of about 50 per cent.

The matter is one of interest to alienists, who have probably had as good an opportunity to judge of the contagiousness of tuberculosis as any class of physicians. Doctor Bondurant's recent paper, abstracted in this issue, is particularly in point.

Another paper of special neurological interest is that of Doctor Dulle's on hydrophobia, in which he takes the extreme ground that such a disease does not actually exist, due to the virus of a rabid animal. The well recorded facts, however, of cases in which there was absolutely no moral or emotional element whatever, as well as the results of laboratory experiments, are too much for his arguments to overthrow. We have seen the disease in dogs, not only in civilization, but amongst unsophisticated savages, who recognized the dangers and had from experience the same opinion of it in all respects as the popular and prevalent medical one of the present day.

Among other papers and discussions of interest, may be mentioned those on metastatic sarcoma of the brain, etc., by Doctors Meigs and De Schweinitz, the discussion on leprosy, the paper of Doctor Dulles on trephining in ancient Peruvian skulls, etc

Commitment, Detention, Care, and Treatment of the Insane, being a report of the fourth section of the International Congress of Charities, Corrections, and Philanthropy, Chicago, June, 1893. Edited by G. ALDER BLUMER, Superintendent of Utica State Hospital; A. B. RICHARDSON, M. D., Superintendent of Columbus Asylum for Insane, Utica, N. Y. Utica State Hospital Press, 1894.

This volume contains the papers read before the section on the care of the insane, read before the International Conference of Charities in Chicago in 1893, one of the divisions of the general series of congresses held there in connection with the great exposition of that year. The papers are by various American and European authors, and are all of interest and value. Several of them have already appeared in this journal, and are, therefore, familiar to its readers. They are supplemented here, however, by the remarks they called forth in their discussion, which also have a certain value, as giving further explanations and light on their subjects.

Among the articles deserving special mention, as particularly eliciting discussion, are those by Doctor Corbet on the increase of insanity, Doctor Parant on irresponsibility in insanity, Doctor Burr on training of asylum attendants, Doctor Campbell Clark on the future of asylum service, and Doctor Blumer on the commitment and care of the insane.

The make-up and typography of the volume are excellent, and reflect much credit on the management of the Utica Hospital Press.

Eighth Annual Report of the Managers of the St. Lawrence State Hospital, 1895.

The St. Lawrence Hospital for the Insane, at Ogdensburg, publishes as its annual report a well bound and illustrated volume of over two hundred pages, which, as rather a variation on the ordinary style of reports, is worthy of special notice. Besides the usual statements of the managers and superintendent, detailing the history and needs of the institution for the past year, about half the volume is occupied with "medical reports" by the medical staff, several of which are valuable scientific papers, worthy of a more extended circulation amongst medical readers than they will be likely to have in their present form, and we are, therefore, glad that at least two of them will reach the readers of this journal in the present issue.*

The paper by Doctor Mosher, on clinical records and methods of keeping them, is one of the longest, and is both interesting and suggestive. The superintendent's report contains some useful recommendations as regards the medical service, which he seems to be putting into practice to a large extent. The special report to the commissioners on lunacy is a new feature in a report of this kind, and repeats some of the information given elsewhere.

Doctor Wise calls attention to the small percentage of deaths from tuberculosis, which is not due to any selection of cases, but rather, he thinks, to better hygienic conditions and ventilation. Isolation was not attempted, and was impracticable. He also noted from autopsies of patients dying of other diseases that remissions or partial cures had occurred during hospital residence. This is in accord with the views stated elsewhere in this issue (see notice of Doctor Bondurant's paper, page 551), and has an important bearing on the necessity of certain precautions advocated by some physicians.

The report, which we have here specially noticed, on account of its unusual size and contents, makes a very creditable impression as to the capacities and conduct of the St. Lawrence Hospital.*

* See "Laboratory Methods," by Doctor Cook, p. 459, and "The Blood in the Insane," by Doctor Burton, p. 495.

NOTES AND COMMENT.

ANNUAL MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

To the Members of the American Medico-Psychological Association.

As has been previously announced by a circular addressed to all members of the association, the fifty-first annual meeting will be held at Denver, Colo., at the Brown Palace Hotel, June 11-14, 1895. The sessions will commence on Tuesday, June 11th, at 10 A. M., and extend through Wednesday, Thursday, and probably a portion of Friday. Arrangements have been made with the Western Passenger Association for round-trip tickets for a fare of one and one-third, but as these are contingent upon the presence of 100 members from the territory of the Passenger Association, and by the rule must be used for a continuous passage home within two days from the close of the meeting, it is recommended that the members of the association decline to purchase them, *but obtain instead round-trip excursion tickets which are on sale at all eastern points for summer tourists in Colorado, and are good from June 1st until October 1st.* These will probably cost but a little more than the one and one-third fare excursion tickets, and will prove much more satisfactory in every way. It is recommended that these tickets be not purchased until after June 1st, as the excursion rates do not go into effect until that date. It is suggested that a special effort be made by correspondence and otherwise to secure concerted action of members who live east of Chicago, to the end that they may meet at that city and make the journey from Chicago to Denver by the same train.

A preliminary programme is appended. The request is made that the titles of any additional papers may be communicated at once to the secretary, so that they may be duly announced. It is also hoped that every member of the American Medico-Psychological Association will make a special effort to be present at this meeting, which is the first one to be held west of the Missouri River.

HENRY M. HURD,
Secretary.

BALTIMORE, April 1, 1895.

Preliminary programme of the fifty-first annual meeting of the American Medico-Psychological Association, to be held in Denver, Colo., on June 11, 12, 13, and 14, 1895:

1. The Cure of Inebriety by Specific Treatment — B. D. Evans, Morris Plains, N. J.
2. The Medical Work in the Wards of Hospitals for the Insane — P. M. Wise, Ogdensburg, N. Y.
3. The Significance of Motor Disturbances in Insanity — A. B. Richardson, Columbus, Ohio.
4. Scientific Dietaries for Hospitals — Clarke Gapen, Kankakee, Ill.
5. Pseudo Porencephaly with Remarkable Secondary Degenerations. Report of a Case of Extensive Cortical Sclerosis with Epilepsy Developed Late in Life.
Demonstration of Cortex and Spinal Cord in General Paralysis.
Demonstration of the Cortex in a Case of Senile Dementia with Peculiar Changes.
Demonstration of Small Tumors in the Cortex of a General Paralytic (circumscribed hyperplasia of the second layer) — Adolf Meyer Kankakee, Ill.
6. Hospital Dietaries — J. D. Munson, Traverse City, Mich.
7. The New York Hospital and Asylum Dietary — Charles W. Pilgrim, Poughkeepsie, N. Y.
8. Concealed Delusions, a Clinical Case — B. D. Eastman, Topeka, Kan.
9. The Relations of Alcohol to Insanity — G. A. Blumer, Utica, N. Y., and H. M. Bannister, Chicago, Ill.
10. Politics and Asylums — J. W. Babcock, Columbia, S. C.
11. A Few Canadian Cases in Criminal Courts in which the Plea of Insanity was Presented — Daniel Clark, Toronto, Canada.
12. Biographical Notice of Dr. F. T. Fuller — P. L. Murphy, Morganton, N. C.
13. Memorial Notice of Dr. E. E. Duquet — T. J. W. Burgess, Montreal, Quebec.
14. Thyroid Feeding in Certain Forms of Mental Trouble — C. K. Clarke, Kingston, Ontario.
15. Memorial Notice of Dr. George C. Palmer — C. B. Burr, Flint, Mich.
16. The Histological Pathology of Chronic Alcoholism — H. J. Berkley, Baltimore, Md.
17. Fragilitas Osseum (illustrated by a case) — H. C. Eyman, Cleveland, Ohio.
18. The Use of Thyroid Extract in Insanity — E. N. Brush, Towson, Md.
19. Presidential Address — Edward Cowles, Somerville, Mass.
20. The Organization of the Medical Work in the St. Peter (Minn.) State Hospital — H. A. Tomlinson.

THE IMPORTANCE OF A JURY TRIAL for the liberty of the citizen in cases of insanity is well illustrated by a recent instance that occurred in Central Illinois. The legal proceedings were all correct according to rules, but the verdict had to be set aside, as it was found that the actually insane person had participated only as a

presumably interested spectator, while another sane individual found himself made legally insane without his knowledge or coöperation.

As jury trials are often conducted in cases of insanity, such a blunder is very possible, and it may very well be that this is not the first instance, but only the first that has been published. No one partaking in it would be specially anxious to advertise his evident lack of capacity for correct judgment, and the error would naturally be corrected as quietly as possible. Such a blunder, however, would hardly be likely to occur under the system of having the insane committed on the report of a commission of competent qualified physicians to the committing magistrate. The compulsory jury trial in these cases is the fetish of personal liberty cranks, ambulant paranoiacs, and one-horse lawyers, and the possibility above indicated is really one of the least of its evils. It causes dangerous delays, wounds personal pride, and is the fruitful source of manifold delusions. In every case where it is not clearly demanded by the patient or his friends, the less objectionable and more rational procedure of commitment by commissioners of qualified examiners in lunacy should be adopted.

M. EUGENE DUBOIS, a Dutch surgeon and naturalist, announces that he has discovered in the quaternary deposits of the island of Java, the remains of a man-like ape, or ape-like man, that seems to come nearer the "missing link" than any other. The skull and femur are well preserved and fully figured in his memoir, and seem to show that this "*Pithecanthropus erectus*," as he has named it, was in these portions of his anatomy intermediate between the anthropoid apes and the lowest man. The capacity of the skull, which was of an exaggerated Neanderthal type, with very prominent superciliary ridges, is from 900 to 1,000 cubic centimetres, being thus greater than that of any ape; the position of the occipital foramen indicated a more erect position than is assumed by any of the higher anthropoids. The femur was still more human in its characters, but the dentition, as judged by the only tooth found, a third upper molar, was decidedly simian.

In discussing this discovery in the French Anthropological Society, M. M. Duval called special attention to the differences between the femur and the cranium, as indicating that the upright position antedated the development of the intelligence; the ape became man-like in his general development earlier than in that of the brain. It has, therefore, a direct bearing on the history of the

mental development of our species, and a psychological as well as anthropological interest.

The discovery will, however, have to be estimated by competent anthropologists before its full value and signification can be considered established. It seems, on the whole, more probable that we have in it an ape-like man than a man-like ape.

THE QUARTERLY JOURNAL OF INEBRIETY finishes its eighteenth year of existence with the January number. This journal congratulates its contemporary and wishes it a continuance of prosperity. While there are points in regard to which we shall continue to editorially differ, we have much common ground and we wish it every success in its efforts to point out and relieve the evils of inebriety. The editorial conduct of the *Journal of Inebriety* has always been marked by ability, and its contributions include many articles of special interest to alienists and all those who are interested in mental medicine.

THE BUFFALO MEDICAL JOURNAL reaches its semi-centennial this year, being thus one of the veteran medical publications of this country. The JOURNAL, as its senior by a year or more, takes this occasion of offering its editorial congratulations.

THE RECENT EMPLOYMENT in different parts of this country of the plea of hypnotic influence as a defense in criminal cases has excited considerable interest in both the medical and the legal professions, and hypnotism in one or another of its phases has been the subject of a number of papers in the journals. One of these, that of Doctor Patrick, on "Hypnotism at Nancy," has a certain value as giving the impressions of a competent observer of the employment of hypnotism at the medical center of hypnotic therapeutics, and by the recognized leaders and chief advocates of the method. This observer is evidently not enthusiastic for the therapeutic value of hypnotism, but as he gives actual details of his observations, one can not freely question his conclusion that it is practically a failure, and gives no results that can not be as well or better attained by other means.

Doctor Patrick does not himself touch on the subject of hypnotic crime, but as it is one of the especial claims of the Nancy school to have established the fact of the possibility of crime from hyp-

notic and post-hypnotic suggestion, his paper has a bearing on this point. We can not and would not apply in this case the legal principle of *falsus in uno*, etc., but if it is shown that extreme views are held and unwarranted deductions are made by any parties in regard to a subject, it discredits more or less their judgment on all collateral matters. The adherents of the Nancy school of hypnotists are almost alone in their advocacy of the possibility of crime from post-hypnotic suggestion — at least in the extreme sense in which it is sought to be practically utilized. They have the merit of attributing due importance to suggestion in the production of the hypnotic phenomena, but they go altogether too far in holding that the conditions are not pathological and in claiming very great and unusual therapeutic value for their method.

The real truth seems to us to lie midway between the Paris and the Nancy schools. Hypnotic conditions fully developed are always pathological; they form a decided aberration of consciousness, very different from its normal conditions. But in its full sense hypnotism includes a much wider range of conditions than seems to have been recognized, or rather admitted, by Charcot and his followers.

It is difficult to define hysteria, and if we assume it to be a disease of consciousness in any general and extended sense, we may admit its close relation with hypnotism, but it is not essential for a person to be what is ordinarily known as hysterical to be susceptible of hypnotization.

As regards the possibility of crime from hypnotic, or rather post-hypnotic, suggestion, the weight of authority, experimental tests, and the application of our best common sense to the actually known data of the subject, all together tend to render it a dubious plea for the defense in criminal legal proceedings.

A BILL making insanity of five years' duration a legal ground for divorce was recently introduced in the Illinois Legislature, but was very promptly and properly defeated. There should be no question as to the similar disposition of any such measure wherever and whenever introduced.

THE FOLLOWING IS A SAMPLE of some of the bills and resolutions that were reported during the sessions of the various legislative bodies this past winter:

RESOLVE with reference to the use of the so-called Keeley Cure at the Massachusetts Hospital for Dipsomaniacs and Inebriates.

Resolved, That the trustees of the Massachusetts Hospital for Dipsomaniacs and Inebriates are hereby directed to set apart such portions of said hospital as the demand may necessitate, for the purpose of administering to persons, sent thither for treatment, the cure for drunkenness now in use in certain private institutions and known as the Keeley, or bi-chloride of gold, cure. For said purpose said trustees shall make terms with Dr. Leslie E. Keeley, or the company representing said cure, for the use of the said remedy, and said trustees shall direct the physician in charge to use said remedy strictly in conformity with the instructions received from said proprietor, both as to administering the same and as to accompanying treatment.

The above hardly needs any comment, but those whose greatest admiration is for what Mr. Howells declares (in our opinion unjustly) to be the American ideal, namely, "business," can, of course, only have for it words of praise. Its philanthropy, however, ought to appear rather attenuated, even to a very gullible public.

THE FOLLOWING RESOLUTION was unanimously adopted by the New York State Medical Society at its annual session February 6, 1895:

WHEREAS, Recent investigation of the condition and management of the asylums for insane in the city of New York has clearly shown that the system of county care under which these institutions are now conducted is a failure, both as regards its humane and economical aspects; and,

WHEREAS, The same is substantially true of the condition and management of the institutions for the dependent insane of the county of Kings;

Resolved, That both the dictates of humanity and the interests of the taxpayers demand that the principle of State care for the dependent insane, which has proven so satisfactory in the other fifty-eight counties of the State, should speedily be extended to the counties of New York and Kings.

Resolved, That the committee on legislation be instructed to request the Legislature to adopt such measures during the present session as will secure the transfer of the dependent insane of the counties of New York and Kings to the control of the State.

THE APPROPRIATION BY CONGRESS of \$1,500 for a monument of Dr. S. D. Gross suggests that some similar national contribution toward the one projected of Doctor Rush would be natural and proper. He was a statesman and a patriot, and a signer of the Declaration of Independence, as well as a physician, though his eminence in his profession has, perhaps, overshadowed his fame in these latter respects. Such honors are given altogether too infrequently to the memory of physicians. One can almost count on his ten fingers the instances, while there is no limit to the numbers of those who have been thus memorialized for their

destructive services in war, or their eminence in the too often shady arts of politics or diplomacy. What greater benefactor has this country produced than the discoverers of anæsthesia, and why should not monuments be multiplied to them as they are to soldiers and statesmen? The State of Alabama has honored itself by making its chief charitable institution a memorial of Doctor Bryce, and Georgia has, we believe, creditably represented herself in the capitol at Atlanta with a statue of Doctor Long. Helmholtz, Sims, and Billroth have recently received similar public memorials; Charcot is to be thus honored. But all these are only exceptions to the rule of general neglect in this regard of a large class of benefactors of the race.

It would almost seem that to be a physician was incompatible with public honors and recognition; either the profession or the services have to be ignored. Doctor Rush was a signer of the Declaration of Independence, but how many of us are aware of the actual number of medical men whose names are with his on that document? Yet, at a time when skilled physicians were rarities, and when not a single medical school was in practical operation, nearly 10 per cent of the first representative body of our country was drawn from our profession.

THE FOLLOWING EXTRACT from a letter of a lady physician* of extended hospital experience, and who has in former years personally observed, to some extent, the Scotch boarding-out system for the care of the insane, is worthy of reproduction here, as bearing on a phase of the subject that has not been very fully dwelt upon by some of the writers on this method of State care:

"I read Doctor Riggs' article * * * with great interest. It brought up a question to my mind, which has occurred to me before when reading of Gheel and other places where the boarding-out system has been in vogue. It is this: What effect does the presence of these defectives have upon the family, especially upon the children, as they grow up among them? I do not remember even to have seen any statement concerning that side of the question, and it seems to me an important one.

"There is probably no question as to the greater comfort and enjoyment of the people so cared for, but that should not be the only nor the first consideration, should it?

"I remember with horror, even now, a single day spent in a home in Scotland where two defective members of the family were being cared for. It was days before I could think of it at all calmly, and I am sure if I had

* Dr. Anne C. Burnet, member of the American Medico-Psychological Association.

been obliged to live with them continually, the effect would have been serious.

"It does seem to me that the intimate association of children with the defective class can not but be harmful to them, while it may possibly be pleasant to the patients. I notice that Doctor Riggs says one of the requirements is that the 'boarder' be as one of the family, eat at the table with them, etc. The fact that it is the poorer class who take them does not alter the case to my mind. If I knew how or where to address Doctor Riggs, I would be tempted to write to him for particulars, though it may seem a small matter. I hope the different States may make such provision for the chronic insane as to avoid any such practice making headway in this country. Am I wrong? My thought is for the children."

The above extract is in accord, in its opinion, with the views of a recent editorial in the *Journal of the American Medical Association*, and also with the views editorially expressed in our review of the transactions of the Illinois State Medical Society in a former issue.

PROF. PAUL KOWALEVSKY has been called to the rectorship of the Imperial University at Warsaw, and the *Archives for Psychiatry, Neurology, and Medical Jurisprudence of Insanity* will also be edited there in future.

WE REPRODUCE HERE the following extract from Doctor Richardson's paper, to editorially indorse its statements:

The medical officers of insane hospitals have been criticised by neurologists in high places for the paucity of the results of hospital treatment of the insane. Can they show any more favorable results in their treatment of other diseases of nervous tissue? If conditions should require in them, as it does in our patients, that their patients should be accumulated in hospitals, and there kept confined until cure or death should liberate them, would not the percentage of cures cut almost, if not quite, as sorry a figure? The causes that develop mental disorder, as well as those that produce the ataxias, the muscular atrophies, the degenerations, and the inflammations are such, and they so operate, that in many instances, even at the time when the patient is first placed under treatment, cure is an impossibility.

In reproducing the above we would not wish to appear as condoning any lack of scientific zeal or deficiencies in observation or treatment. If such exist they certainly deserve condemnation. But as regards criticisms of results often made, we deem it an adequate and appropriate reply.

INTERNES IN INSANE HOSPITALS.—It has been decided to introduce internes in the insane hospitals of Illinois. They are to be
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appointed by competitive examination, and it is proposed and hoped by the State Board of Charities by this means to obtain a high grade of professional excellence in the junior staff of these institutions.

SOME DIFFICULTY HAS ARISEN at the Wernersville (Pa.) Asylum for the Chronic Insane in deciding as to who are suitable inmates for that institution. The superintendent, in his recent report (page 14), makes the following statement:

The ninety-four (94) who were returned [*i. e.*, sent away from the Wernersville Asylum] were all of such a class as to be unfit for asylum detention and care, either by reason of violence and destructive habits, or helpless by reason of age or infirmity, or so untidy in their habits as to render their presence in the dormitories unpleasant and injurious to the others. To obviate this in the future the Board of Public Charities, at a stated meeting at Harrisburg on September 5, 1894, took the following action: *Resolved*, That the Board of Public Charities herewith direct the trustees and the superintendents of the State Hospitals for the Insane to refrain in the future from sending to the State Asylum for Chronic Insane, patients who are excited, untidy, feeble, or so physically diseased or debilitated as to require special watching, nursing, or regular medical treatment. *Resolved*, That the Committee in Lunacy be hereby directed to continue coöperation with the trustees and superintendent of the State Asylum in securing and maintaining at that institution a proper population of quiet, able-bodied, working inmates.

If it be true, as substantially stated above, that patients who are "violent," "destructive," "helpless," or "unpleasant" in the dormitories are "unfit for asylum detention and care" in an asylum for the chronic insane, then a new definition of the term is needed.

The real question, however, would seem to be whether all the inmates at Wernersville may with propriety be selected exclusively from the "quiet, able-bodied, working inmates," who are not "untidy, feeble," or in need of "watching or regular medical treatment."

To the candid mind such discrimination would seem somewhat unfair to the remaining institutions of the State, but we are loth to believe that the Board of Public Charities seeks to make this a specially privileged institution.

Moreover, we think the eminent men composing the consulting medical staff (whose names have been given in a former issue of this journal) should be considered in this matter. In what way can they be of assistance to this "proper population of quiet, able-bodied, working inmates?"

THE DEATH OF DR. DANIEL HACK TUKE is announced just as we go to press, and we extract from the *Medical News* the following appreciative notice of his career. His was one of the greater reputations of his time and country, and sure of an enduring place in the annals of psychiatry. Those who personally knew Doctor Tuke will recognize how worthy he was of warm and admiring regard:

DR. DANIEL HACK TUKE.—The death of this eminent alienist is announced in the cable dispatches from England. Doctor Tuke was a grandson of William Tuke, the founder of the York Retreat, the celebrated Friends' Asylum, in which, for the first time in Great Britain, rational and humane methods were employed in the treatment of the insane. He was educated at St. Bartholomew's Hospital, where he was a fellow-student with that distinguished Friend and ornament to our profession, Mr. Jonathan Hutchinson. For a time Doctor Tuke was resident physician at the York Retreat, but a progressing lung-trouble interrupted his professional work for many years, during which he lived at Falmouth. He kept close touch, however, with his special work, and issued in this period, with Doctor Bucknill, the well-known "Manual of Psychological Medicine," and the "Influence of the Mind upon the Body," both of which were reprinted in this country.

Early in the seventies his health was so far established that he removed to London, where for twenty years he has been an active worker in promoting the best interests of psychology. For many years he was joint editor of the *Journal of Mental Science*, and he has year by year issued many valuable monographs, such as "Insanity in Ancient and Modern Life," 1878; "Chapters in the History of the Insane in the British Isles," 1882; "Sleep-Walking and Hypnotism," 1884. In 1892 appeared the "Dictionary of Psychological Medicine," which he edited with great skill and care. In 1884 Doctor Tuke visited the United States and Canada, and made a systematic inspection of the asylums of both countries. The results of his visit appeared in a work entitled "The Insane of the United States and Canada," 1885. He entered for this country that warm feeling which characterizes so many of the members of the Society of Friends in England, and while here he made himself very popular, and left behind most pleasant memories. He had, in truth, a loving and gentle spirit, zealous ever for the good of his afflicted brethren, zealous always for the honor of the profession. His life affords a noble example of splendid work, accomplished under the adverse circumstances of ill-health; and his name will be written (with those of his father and grandfather) among the Abou-Ben-Adhems—those ministers of God to men, who have "in much patience, in affliction, in necessities, in distresses," labored to lighten the heaviest burden of a heavily burdened humanity.

THE NEW YORK COMMISSION IN LUNACY.—The *Journal of the American Medical Association*, March 30, 1895, states that the Governor of New York has renominated Dr. Carlos F. MacDonald as commissioner in lunacy. Doctor MacDonald—who, as chairman of the commission, has shaped its policy—has accomplished a work

worthy of recognition in furthering "State care" for the insane, as opposed to county care, and in increasing, in some directions, the efficiency of the State hospitals, and we recognize his services in these directions with much satisfaction. We must also add that we have noticed on the part of this board a degree of blindness which we deplore, as to the services of others, living and dead, who have helped to make possible the progress of to-day.

Furthermore, we differ most emphatically with the policy of the New York Commission in interfering with the administrative work of the institutions. Such interference is wrong in principle and mischievous in its effects, and should be opposed by all who have the best success of the institutions and their inmates at heart, and, if Doctor MacDonald is wise, he will seek to confine the activity of the commission within the legitimate lines of review, supervision, and official report.

The New York *Medical Record* of March 9th opposes, editorially, the transfer of the New York City insane to the care of the State, alleging that "Our State institutions are threatened with an invasion by the machine. Already two of these institutions have succumbed and became creatures of politicians."

We have advocated State care for the New York City insane, but if politics and unwarranted, and possibly dictatorial, interference with the local autonomy of the institution are to have sway, there will be little to choose for the unfortunate but helpless insane people who are most concerned, but have least to say.

THE NEW YORK EPILEPTIC COLONY. — The following note from the New York *Medical Record* of March 16th will arouse the indignation of our readers who know so well the dangers of political interference, and who recognize especially the eminent services of Dr. Frederick W. Peterson for this institution:

DANGER TO THE CRAIG COLONY. — A bill has been introduced into the Legislature by Mr. Kelsey of Livingston County, to remove the five managers of the Craig Epileptic Colony, and make places for twelve managers selected on another plan. This scheme is described by the *Rochester Union and Advertiser* as a "disreputable scheme for looting that institution."

ACKNOWLEDGMENTS. — For any seeming lack of courtesy in acknowledgment of publications received, books, monographs, etc., we crave the considerate allowance of our friends. A record has been kept of these valued contributions and will duly appear, but is crowded out by great pressure upon the space in the present number.

CLINICAL INSTRUCTION IN PSYCHIATRY.—There are growing evidences of greater interest for instruction in psychiatry on the part of the profession, both in and out of the institutions for the insane. The unhappy isolation in which these institutions have been placed has been, we think (aside from their inaccessibility in some cases), fully as much due to the apathy of the general profession as to that of the hospital physicians. At any rate we are glad to note that in various parts of the country (Columbus, Ohio; St. Louis, Mo.; Chicago, Ill.) clinical instruction in insanity is being regularly conducted, as noted on another page.

MEDICO-ATMOSPHERIC STUDIES.—It is to be hoped that all the insane hospitals of the United States will enter heartily into the enterprise of the Weather Bureau at Washington in collecting information upon the relations of health and climate, or atmospheric conditions. These institutions are most favorably situated for furthering these studies. The blanks are furnished by the Weather Bureau for keeping the various records. All who apply will be supplied with them, and with the important publications later to follow, *gratis*.

We hope the combined labors of Professor Harrington and the observers of the country may give us a key, and possibly a cure, to the ravages of the grip — even if the “bacillus” of insanity should still elude us!

KANSAS is the home of kaleidoscopic effects in politics, sociology, and other “ologies” and “isms.” From a medical point of view the achievements of Dr. F. H. Pilcher of the State Institution for Feeble-Minded Children, in castrating eleven of the imbecile male masturbators, are highly interesting.

We shall hope to hear further from Doctor Pilcher, and we trust the benefits observed in nine of these eleven boys may be permanent.

We do not feel called upon to condemn or approve, as a whole, this operative procedure. Nothing substantial is yet proven with reference to it, but we believe these are appropriate cases for study and operation, and are in sympathy with every effort in which science and humanity combine for discovery of new ways of benefit to the race.

THE CARE OF THE INSANE IN ONTARIO is justly commended in the *Medical Record* of January 26, 1895, in a letter from the Canadian correspondent. Economy, efficiency, and progress are the

watchwords, and the institutions vie with each other in a creditable rivalry where each has its own especial excellencies. The new institution at Brockville has detached wards. The extension at Mimico of the original asylum at Toronto is on the detached system, and the London asylum had detached wards long before the general adoption of them in the States. The detached ward or cottage is now an acknowledged thing and need no longer be contended for.

Economy is mentioned above. We believe this virtue is carried to an extreme in some respects, and that for the highest results a somewhat more liberal policy is called for, especially in scientific equipment and in placing salaries at a figure such as would retain the satisfied service of the excellent men now in charge and attract the best men as their successors.

One feature of lunacy administration in Ontario we consider questionable, and that is the arbitrary transfer of assistant medical officers, without reference to any wish or preference of theirs, from one institution to another. This seems somewhat too military, and what its advantages (if any) may be, we are not advised.

REPORT OF THE MASSACHUSETTS STATE BOARD OF LUNACY AND CHARITY.—In Massachusetts, according to the report of the State Board of Lunacy and Charity, there are 5,551 insane in hospitals and asylums, and 211 in private families.

The McLean Hospital for the Insane receives high praise for many excellent features, and it is shown that at that institution in thirteen years 457 patients have been received on voluntary commitment.

The absurdity of the law which forbids any physician connected with any public or private hospital for the insane to make out a certificate in lunacy is shown.

The urgent need of separate provision for epileptics is also convincingly dwelt upon.

HOSPITAL FOR INSANE PERSONS OF MODERATE MEANS.—The County Council of Yorkshire, England, has decided, we learn from the London *Medical Press and Circular*, to provide an especial hospital for such insane persons as are not a public charge, but yet are unable to pay the high charges of private institutions. This is an admirable enterprise and worthy of Yorkshire, and particularly of the West Riding. Insanity has increased in Yorkshire for twenty years at an average annual rate of $82\frac{1}{2}$, but in 1893 the figure reached 100.

CORRESPONDENCE.

BRITISH CORRESPONDENCE.

Scotch Lunacy Commission.—The vacancy caused by the retirement of Sir Arthur Mitchell has been filled up by the appointment of Dr. John Fraser deputy commissioner. Doctor Fraser was superintendent of the Fife and Kenriss Asylum for some years; in 1878 he became deputy commissioner in lunacy, and his work there, as attested by his Blue Book reports, and his writings elsewhere, show him to be a man eminently zealous for the well-being of the insane, and thoroughly imbued with sound principles of lunacy administration. Always genial and affable, without undue formality, ready to discuss, open to receive suggestions, and willing to coöperate with others, his appointment will be popular and his promotion will be generally approved and appreciated. It is not too much to say that with such a good, all-round man as Doctor Sibbald at the head of affairs, and with Doctor Fraser as his first lieutenant, sound judgment and breadth of view will prevail as formerly. The new deputy commissioner is Dr. I. F. Sutherland, who has distinguished himself in the prison service. In lunacy he is still an untried man, though his writings show a bias in that direction; but he is energetic, zealous, and capable, and we look forward to his worthily filling the post left vacant by Doctor Fraser.

Hæmatoporphyrinuria following the Administration of Sulphonah.—This is the title of a very valuable paper read by Doctor Oswald of the Glasgow Royal Asylum at the Edinburgh meeting of the Medico-Psychological Association in November, 1894, and published in the Glasgow *Medical Journal* in January, 1895. It ought to be read by all who are in the habit of prescribing sulphonah. It refers to some fatal cases following the administration of that drug. About forty cases have been reported from all sources, in which hæmatoporphyrin appeared in the urine. Of these over one-half terminated fatally. Most of the cases had many similar features. All were women. The symptoms were vomiting, abdominal pain, pelvic uneasiness, usually constipation, diminished urine excretion, tendency to collapse, and paralysis was frequent. There seems to be no relation between the severity of the symptoms and the quantity taken—in one case 8,000 grains were given in 120 days; in another, 400 in twenty-five days.

Thyroid Extract in the Treatment of Insanity.—The recent papers by Dr. Rutherford McPhail and Dr. Lewis Bruce on this subject are well worth reading. They seem to point to a useful addition to the medical armamentarium of asylums, and especially where chronicity is feared should this treatment be tried as a *dernier ressort*. The principle which has guided these observers in initiating this new treatment is rational and physiological.

A. CAMPBELL CLARK.

THE ORGANIZATION OF HOSPITALS FOR THE INSANE.

To the Editor:

SIR: Doctor Channing's article in the October number of this journal raises some interesting and important questions which are worthy of further discussion. In his address before the Medico-Psychological Society, at its last meeting, Doctor Mitchell charged, in substance, that our insane did not receive the highest order of medical treatment, and that the medical officers of the institutions where they are cared for made but scanty contributions to our knowledge of the maladies with which they have to deal. Doctor Channing does not take notice of the former charge, but in regard to the latter, he argues, if I understand him aright, that the physicians of hospitals for the insane should not be expected to make contributions to medical knowledge; that neurologists are not good executive officers, and their duties are, before all, executive; that even if they had the ability and inclination, they have not the time, and that where scientific work is done in such an institution, whether in this country or in foreign lands, it warrants the suspicion that the patients are neglected. Although he sees no objection to a visiting staff in the case of such hospitals as are situated near large cities, he does not believe such an experiment likely to be successful, and in those far from the centers of population it is impracticable. Two important questions are thus raised: First, whether the conditions of our asylums are such as to preclude scientific work; and secondly, if such is the case, whether such a state of things should be considered satisfactory. It will be more convenient to consider the latter question first.

Although Doctor Channing refers more specifically to laboratory work, his remarks are equally applicable to any other form of professional study, whether clinical, statistical, or literary. It may be freely admitted that a man may excel as a student and yet be a poor practitioner, but the converse does not hold good. I think it

may be said, without qualification, that no man can reach a high degree of excellence as a physician without being, in one line or another, a student. If this be true it follows that, under a state of things which allows no opportunity for study, the patient, at the best, must put up with mediocre professional care, and the question resolves itself into whether such care is good enough for the insane. There may, of course, be cases in which it is the best that can be had, but it does not follow that nothing more should be desired. We do not discuss the question whether it is better that our patients should have unwholesome food or unhealthy lodgings — we say they should be both well fed and well housed. So, although the executive work of a hospital is satisfactorily done, it does not follow that we should be content if the patients are not receiving the best of medical care.

My own experience would not lead me to think that to do justice to the patients in a hospital for the insane is easier than in other lines of practice. It is true that a certain portion of them are, so far as our knowledge now goes, irremediable, and that others will recover if they have any sort of a fair chance. It is likewise true that most obstetrical cases will do well without a physician, but most people would, nevertheless, think it well that a lying-in hospital should be under the care of competent obstetricians. Insanity may be due to syphilis, to renal disease, to myxœdema, to malaria, and the knowledge and skill of the physician may make all the difference between death and recovery. Apart from their insanity, the insane are liable to the same sorts of diseases as other people; in fact, it has seemed to me that an uncommonly large proportion of obscure and unusual ailments occur among them. Their mental condition often increases immensely the difficulties of diagnosis and treatment, and they can not, even if they were competent to make a wise selection, choose their medical attendants. Under such circumstances, it seems to me that they are entitled to have their interests looked after by those who have them in charge, and that any system which so occupies the time and attention of their physicians with other matters, however important, as to render them unable to become thoroughly proficient in their profession, leaves something to be desired.

Is it true that, under present conditions, it is impossible for the physicians in our hospitals for the insane to find time for study without neglecting other duties? Perhaps an answer of universal application can not be given to this question (there is so much difference

in the circumstances). Probably the physicians of some institutions are overworked, but, judging by the two in which I have been employed, and by what I have seen in others which I have visited, I do not believe that, as a rule, they have less time at their disposal, available for scientific work, if they were disposed to use it for that purpose, than many men in active private practice who find time to make and put on record interesting observations. I doubt very much if the facts would bear out Doctor Channing's assumption that the patients are neglected in those institutions in which some scientific work is done. It would be invidious to single out instances among contemporaries, but no one, I presume, would say that the late Pliny Earle was an administrative failure, and his contributions to the knowledge of the class of patients with whom he had to do were of great and permanent value. My belief is that, speaking in general, where there is a failure to do work of that kind, it is due rather to lack of disposition than of opportunity. Notwithstanding a good many exceptions, and marked progress of late years in many quarters, in what seems to me the right direction, I fear it must be admitted that among the physicians of our hospitals for the insane, taken as a class, there is not the highest degree of professional enthusiasm, and that the state of things, in this respect, does not compare favorably with what may be seen in general hospitals. The reason for this does not, I think, lie in the character and previous training of the men. Taken as a class, the men who enter this work are, I believe, of more than average abilities and attainments. There is a large proportion of liberally educated men among them, and very many of them have had previous experience in general hospitals. Cases have come under my notice in which, after leaving the asylum service, they have shown a much more active interest in professional matters than while engaged in the care of the insane. My impression is that in a large proportion of our institutions the atmosphere is not professionally stimulating.

One principal reason for this state of affairs is to be found, I suspect, in the organization of the hospitals. Under existing arrangements, in most of them, the position of superintendent is the only one which can be considered satisfactory, as a permanency, either in point of honors or emoluments. In many of them, assistant physicians can not marry, or, if allowed to do so, can not live with their families. Their salaries are, in most cases, comparatively small, and if they do not succeed, after a few years, in attaining a superintendency, they are apt to be looked upon as failures.

I am so far in accord with Doctor Channing as to believe that, in establishments of the size which is becoming the rule in our hospitals for the insane, executive ability is the first essential. If a man has it in the form which shows itself in a wise selection of subordinates rather than personal attention to all the details of every department, he may be able to get a good deal of time for study, but it is evidently impossible that the administrative head of a hospital of a thousand or more patients should be as good a physician as if he could give his whole time to the study and practice of his profession, and it is the more important that he should surround himself with men who can do, in competent fashion, the work to which he can not personally attend. Not unnaturally, however, he is often inclined to select for promotion the men who are best fitted to lighten his own labors, to assume his duties in his absence, and fill his place in the event of his death or retirement. Thus, his assistants come to have the feeling that professional merit does not count for much; that they can not win advancement by means of it, and can do as well without it. The proportion of men who have such a fondness for their profession as to need no spur in the form of honor or profit is not very large, and it is not strange that the average man should either be disposed to neglect that for which he is likely to get little or no credit, or to seek some other field of work in which his professional abilities and attainments will count for more.

Another defect which I believe to be common in hospitals for the insane, and to react unfortunately on the professional interest of the physicians, is the lack of thorough medical oversight of the work of the younger men. I believe something like the following to be not uncommon: A young man, perhaps fresh from the medical school, after a few days of preliminary observation, is placed in charge of a couple of hundred patients. The superintendent goes through the wards with him at irregular intervals, and comments on such things as strike his attention, but makes no systematic examination of his patients. The other assistants will answer inquiries, and consult with him in regard to his cases if asked to do so, but they are busy with their own work, and do not make a practice of visiting his wards unless asked to. If he makes incorrect diagnoses, or gives inappropriate treatment, he is not corrected because no one knows of it.

Much the same state of affairs exists in regard to professional reading. The young assistant physician reads as much or as little as he pleases, and if it is little, the chances are that his seniors talk

about him, rather than to him, in regard to it. I have been associated with more than one assistant physician whom I never knew to read any book on insanity, and I knew one superintendent — who had not, however, obtained his position by promotion from the lower grades — who, I have strong reason to believe, had never read any such work through.

The result of this arrangement is, that while some divisions of a hospital are under the care of experienced and able men, others may be in the hands of the inexperienced and, comparatively, incompetent. Where such is the case, the superintendent can, of course, do much to remedy it by endeavoring to stimulate a professional spirit in his assistants, and giving them to understand that it is expected of them that they shall be intelligent, studious, and progressive physicians. It may, however, I think, be questioned whether, in our larger institutions at least, this is likely to be sufficient without some change of organization. For reasons already mentioned, it seems to me hardly possible, in a hospital of a thousand or more patients, that the same person should be the administrative head and the medical head and perform both classes of duties satisfactorily. To be a first-class physician will tax the abilities of most men pretty severely. And yet, it does not seem too much to ask that there should be at least one first-class physician attached to such an institution. Need there be (there any more than in a general hospital) anything subversive of good discipline in leaving to him the medical treatment of the patients?

Such an officer might, in association with the assistant in charge of the respective cases, examine all newly-admitted patients and all cases of serious illness, and direct the treatment if he deemed it necessary; make such frequent visits to the wards as to keep himself informed of the condition and progress of all the patients; suggest topics for study and research to his associates; inspect the notes of cases; conduct or even see post mortem examinations, and see that the findings were properly recorded. He would naturally pay special attention to the less experienced members of the staff, suggest appropriate reading in connection with their cases, and give them such instruction as they might need in diagnosis and treatment. In order that he might have time for these duties, and also for study, he should be relieved from administrative and clerical work, from correspondence and interviews with the friends of patients, and should be allowed a salary commensurate with the importance of his duties.

Such a man need have no lack of occupation, and might, it seems to me, raise the standard of medical care in some of our institutions for the insane. That such a plan would be altogether without drawbacks, or would work well irrespectively of the character and attainments of the person employed, could not be expected. In the smaller hospitals the senior assistant physician, if he were selected and his work arranged with reference to it, might attend to much of its work suggested above.

Whatever may be thought of the merits of the plan above suggested, or of the necessity of any change, it remains true that psychiatry can not keep pace with the general advance of medical science and art without study on the part of those who devote themselves to it. An institution in which the sick, with whatever form of disease, are well housed, fed, and clothed, and considerably cared for, may do an immense amount of good, but it can not justly claim the name of hospital unless the diseases of its patients are intelligently studied and scientifically treated.

I should be very sorry to be understood as belittling in any degree the importance of the administrative work of a hospital for the insane. To see that the immense sums which are required for their support are so expended as to accomplish the utmost possible for their welfare is no easy or trifling matter. The most skillful and scientific diagnoses, prescriptions, and post-mortem observations will avail little if the patients have not good food, good air, suitable shelter and clothing. With the great mass of chronic cases it is, I believe, true that occupation, recreation, and kind and considerate attendance constitute, in the present state of our knowledge, the most important part of their treatment, for the lack of which no amount of pathological knowledge on the part of their physicians can compensate. My plea is not for less of these things, but for something else that seems to me not unimportant in addition.

Neither do I wish to be understood as indorsing all that was charged by Doctor Mitchell, and apparently admitted by Doctor Channing, in regard to the neglect of professional work in institutions for the insane. In not a few of them there is a very healthy activity in this line, and the paucity of scientific contributions is due quite as much to the inherent difficulties of the subject as to lack of study—a matter which our friends, the neurologists, do not seem always to duly consider. As most of them make the treatment of the insane a part of their practice, we might reasonably ask for their contributions to the elucidation of this subject, or, if they

prefer something which is more exclusively in their own field, we might say that when they have given a scientific explanation of the phenomena of hysteria, we will try to do as much for mania and melancholia.

My contention is, merely, that the study and treatment of disease, in the scientific spirit, is one of the proper functions of every hospital, and that no hospital in which that is neglected, however well its work in other respects may be performed, is in an altogether satisfactory condition. So far as such is the case in our hospitals for the insane, some means ought to be devised for supplying the deficiency.

W. L. WORCESTER,

Late Assistant Physician Arkansas State Asylum.

THETFORD, ME., February, 1895.

OBITUARY.

DR. MATTHEW DICKENSON FIELD.

By Dr. WILLIAM D. GRANGER.

Dr. Matthew Dickenson Field died at his residence in New York on the 9th day of March, 1895.

Doctor Field was born July 19, 1853, at Nashville, Tenn.

He was the son of the Hon. Matthew Dickenson and Clarissa (Lafin) Field. His father was a noted civil engineer, and was a brother to David Dudley Field, the illustrious lawyer; of Cyrus W. Field, whose fame is world-wide, because of his connection with the laying of the Atlantic cable; of Stephen W. Field of the United States Supreme Court, and of the Rev. Henry M. Field, editor of the New York *Evangelist*. Justice David J. Brewer of the United States Supreme Court is a cousin of Doctor Field.

Doctor Field was prepared for college at the Academy of Munson, Mass. He entered Williams College and graduated in the class of 1875. He graduated in medicine from Bellevue Hospital Medical College in 1879, and was interne in the Bellevue Hospital from October 1, 1878, to April 1, 1880. He was visiting physician at Charity Hospital on Blackwell's Island for three years, and was inspector in Health Department, New York City, for two years, being employed in detecting typhus fever.

For a number of years he was lecturer upon mental diseases at the New York Polyclinic.

In November, 1882, he was appointed examiner in lunacy for the Department of Public Charities and Corrections of New York City. In October, 1883, he was appointed surgeon of the Manhattan (elevated) Railway Company. He held both of these positions at the time of his death.

He was frequently called as an expert, in both civil and criminal cases, where the question of insanity was involved. He was a member of the American Medico-Psychological Association, the American Neurological Association, the National Association of Railway Surgeons, the New York State Medical Association, the New York County Medical Association, the New York Academy of Medicine, the New York Neurological Society, the Society of the Alumni of Bellevue Hospital, and the Society of Medical Jurisprudence.

Doctor Field's duties as examiner in lunacy and as surgeon to the elevated road occupied all his time, except that given to consultation in cases of insanity and to expert work, and for many years before his death he retired from all private practice of general medicine.

Doctor Field's labors for the railroad company were not those of a surgeon, and the title to his position, a few years ago, was changed to "medical adjuster," which fully expresses the character of work he performed. He looked after the interests of the company in suits for damages from injury, and prepared their cases from the purely medical and surgical side. He never, however, went upon the witness stand, either to testify to fact or opinion.

Doctor Field's interest and ambition were entirely in his work as an examiner in lunacy, and his great ability was shown in his efforts in expanding, perfecting, and elevating the system of detaining and caring for the insane, pending their formal commitment and in the scientific examination into their insanity.

Doctor Field's fifteen years of labor at the "insane pavilion" of Bellevue Hospital well exemplified the high order of his talents, as well as his zeal for the welfare of the unfortunates.

All persons suspected of insanity, coming under the care of the public authorities in New York City, are sent to the pavilion for five days' detention and observation. It is situated upon the grounds of Bellevue Hospital, but is under the charge of Doctor A. E. MacDonald, general superintendent of the New York City Lunatic Asylum. There is attached to it a resident physician and a corps of nurses.

Here every opportunity is afforded for their proper care and for careful observation and examination. Doctor Field and his co-examiner visited the pavilion daily. They seldom examined the patients together, but each separately, and united in a certificate if they agreed, and if not, the resident physician was called in and his decision was final in disposing of a case either for commitment or discharge. In this way Doctor Field examined about 2,000 persons yearly for insanity. During the years 1888, '89, '90, and '91, 7,669 persons were admitted to the pavilion. Of these, 5,186 were sent to the New York City Asylum, 495 to other asylums, 893 to other non-insane institutions, 969 were discharged, and 106 died.

Doctor Field was extremely careful in his examinations, not only of the patients themselves, but in getting all facts from others bearing upon the insanity, such as those showing the cause, the heredity,

occupation, the number of previous attacks, and nativity. Whatever would be useful in practical application, or assist in scientific research, he studied to receive. It was his intention to use the knowledge he had gained by publishing the results of his labors. But the end came too soon and too early in his life.

In 1892 he read a paper before the American Social Science Association on the "Examination and Commitment of the Public Insane in New York City." In 1893 he read before the American Neurological Association a paper entitled "Detention Hospitals for the Insane." In this paper he related with care the origin and growth of the pavilion, the methods regulating commitment to it, and the character of work done by the medical staff. He urged upon that body the necessity of such detention hospitals in all large cities, and asked their coöperation in extending knowledge of the subject, and their influence in establishing like institutions.

It was Doctor Field's intention to bring the subject of detention hospitals before the Psychological Association and urge its influence to assist in their establishment.

Doctor Field wrote many articles for medical societies. Perhaps his most interesting contribution was upon "Othæmatoma," read before the American Neurological Association, 1892. He took up the subject of "hæmatoma auris" in the non-insane, and exhibited by photographs and living subjects many cases, especially among professional boxers and athletes.

Doctor Field's final sickness, arising from disease of the heart, confined him to his room many months before his death.

In 1885 he married Lucy Atwater, who, with two daughters of tender years, survive him. A simple service was held at his residence in New York, attended by a large number of prominent physicians of that city. The next day he was laid at rest in the Field burial-ground, Stockbridge, Mass.

JAMIN STRONG, M. D.

Jamin Strong, M. D., of Cleveland, Ohio, died at his home, No. 39 Euclid Place, in that city, at 1.30 P. M., January 29, 1895. His death was unexpected and sudden. Three weeks previous he had a mild attack of la grippe that confined him to his home until within a few days of his death, but it had spent its force, not at any time being considered serious, and he had been for several days taking short walks, and was gaining strength rapidly. He had but

a moment before sat down to dinner with his family, and was conversing on some reminiscence of his eventful life, when he suddenly fainted in his seat. Regaining consciousness a few moments afterward, he seemed confused and asked where he was, and said he must have been asleep. He arose, saying he felt sick at the stomach, walked into the library, became unconscious within ten seconds, and expired before a physician, who was immediately summoned, could reach his side.

Thus passed the spirit of a man whose marked personality and positive characteristics have for the past twenty years made him a prominent figure in the circles of Ohio and American alienists.

He was born at Parma, Monroe County, New York, November 27, 1825, and was consequently in his seventieth year at his death. He was the son of James and Balsora Strong. At twelve years of age he removed with his parents to Lorain County, Ohio. In the summer of 1846 he began the study of medicine under Dr. Eber Ward Hubbard, having received his preliminary training in the public schools, and by private instruction in Latin, Greek, and the higher sciences from his sister. He graduated from the medical department of the Western Reserve University with the session of 1848-9, and began practice at once in Elyria, the county seat where he continued uninterruptedly until 1869. During that year he was elected a member of the Ohio Legislature, but resigned at the close of the first session.

The following year he sold his home in Elyria and removed to Oberlin, Ohio. He spent the succeeding four years in travel and study, and was for a part of the time employed in a department of the United States Treasury.

On November 19, 1875, he was appointed medical superintendent of the Northern Asylum for the Insane at Cleveland, Ohio, now known as the Cleveland State Hospital, and maintained that position through the kaleidoscopic changes of Ohio politics for fifteen years, resigning at last in 1890, a victim of the sweeping political changes in the asylums of the State during that year.

He then opened an office in Cleveland, Ohio, and was in 1891 appointed health officer for the city of Cleveland. At the end of his term of office, two years, he commenced the special practice of nervous and mental diseases in that city, and continued therein until his death.

In February, 1858, he married Miss Nettie Lincoln of Oberlin, Ohio, by whom he had four children, the oldest, William H., dying

two years ago at Detroit, Mich., and the other three, Mary L., Harry M., and Charles J., surviving him. His wife was an invalid for some years before her death, which occurred in 1889. Since then he had remained unmarried, his three children, all now grown, living with him.

Doctor Strong's services in the institution with which he was so long connected were marked with signal success, and his personality was impressed upon every feature of the institution. His positive convictions and aggressive characteristics led him occasionally to exhibit an inflexibility that was, perhaps, open to criticism, but it was these traits that maintained the wonderful discipline that he so admirably maintained throughout his long term of service and gave such a decided individuality to his administration. He had the courage of his convictions and no opposition daunted him. He was a strong hater and a steadfast friend. In its exacting neatness, its perfect order, and its uniform effectiveness, his institution was a concrete exhibition of his persistent adhesion to fixed principles of action and his indefatigable industry in the acquisition of detail. His services were in constant demand as an expert and consultant in Northern Ohio, and he was one of the corps of alienists summoned to aid the Government in the prosecution of Guiteau in 1881. During his superintendency he delivered two courses of lectures to the students of the medical department of Wooster University and had a great interest in psychological study and research. He insisted that the institution should be kept aloof from the despoiling influences of partisan politics, and persistently maintained this position to the end. He was scrupulously careful in the selection of his employes, and was a rigid disciplinarian in his administration.

He was the author of numerous monographs, among which may be noted "Education as a Factor in the Prevention of Insanity;" "The Melancholy Type and its Relations to the Different Crises of Life;" "Psychology the Key to Medical Science;" "Physical Aids to the Study of Mind;" "The Emotions and How to Manage Them;" "The Influence of Alcohol on the Nervous System," and "Different Phases of Epilepsy and Hints on their Diagnosis." His annual reports were replete with discussions of interest and of practical importance in the care of the insane, and reflected the strong traits of character and the marked individuality of their author.

He was a man of strong likes and dislikes. He hated, with all the vigor of his positive character, anything resembling charlatanry or affectation, was outspoken in his condemnation of practices he

could not approve, and inflexible in the execution of his purposes. His mind was of a decided intellectual cast, he read much, was a good thinker and a ready and entertaining conversationalist.

He was a man of exemplary character, a kind and loving husband and father, and a faithful public servant of the State. He occupied a place in alienism in Ohio which has gone with his going. We shall see none among us like him again, and although we may not have been able always to concede the wisdom of his methods or expressions, we can and do most heartily revere his memory and award him an honored place among the strong-minded and forceful actors in our specialty in the United States.

The American Medico-Psychological Association will miss him from its councils and deliberations. He was for many years identified with it, was in almost constant attendance at its sessions during his active work in the specialty, and took a lively interest in its proceedings. He was distinctly a conservative, believed in the old and time-honored methods, and was chary of new fads and practices. He was open and frank in his criticisms and positive in his opinions. One by one these followers of the old school leave us, the passing years bring new faces, new ideas, and new practices. Let us not forget, however, that in these sturdy characters were embodied many traits that we should emulate and much that we should reverence.

A. B. R.

LOUIS FLORENTINE CALMEIL.

(Since the following note was written we have learned of the death of Doctor Calmeil, which occurred the 11th of March last.)

In the January number of the *Archives of Neurologie* there appears a very interesting notice of Doctor Calmeil, one of the most illustrious of French alienists, and who, in his ninety-seventh year, but with his mental faculties still unimpaired, may yet see his centenary. For fifty years he was connected with the asylum at Charenton, at first under Royer Collard and then under Esquirol, to whom he was the natural successor, but owing to his modesty and lack of influence, he was retained in his subordinate position till 1850, fully twenty-eight years from the time of his entering the service. In this year, at the age of fifty-two, he was finally made medical director, which post he held for twenty-two years. Since his voluntary retirement, in 1872, he has passed a green old age in his pleasant home near the scene of his life's labors, surrounded by his devoted family and friends, and enjoying himself with his books and in his

favorite study of botany, which has been all his life his recreation. It would be needless here to recapitulate all the titles of the contributions of this master in our specialty; they range in date from 1824 to 1865, but he is best known by his celebrated treatise on the inflammatory diseases of the brain, his early studies of general paralysis, and his historical work on insanity from the Renaissance to the nineteenth century. In the history of psychiatry from the nineteenth century onward, his own name will stand among the first and greatest.

DR. E. E. DUQUET.

The following additional particulars relative to the death of Dr. E. E. Duquet have been received since the issue of our last number. The deceased gentleman was a native of the Province of Quebec, where also he received his literary and medical training. Soon after entering private practice he was made a member of the medical board connected with the St. Jean de Dieu Asylum at Longue Point, near Montreal, and on the death of Doctor Howard, in 1884, was made medical superintendent of that institution. Doctor Duquet was only in the thirty-ninth year of his age when he died, but had already distinguished himself as an alienist of advanced views. Death resulted from an attack of pneumonia after an illness of eight days. The deceased leaves a widow and three children to mourn his untimely end.

ITEMS.

THE CORRECTION OF URINOUS ODOR.—It is well known that the essence of turpentine gives, when taken internally, an odor of violets to the urine. This fact has been put to good account by a learned professor, who has for some time been in the habit of giving the essence in ten-drop doses three times daily to persons afflicted with incontinence of urine. In a short time the disagreeable odor of the secretion is replaced by the characteristic odor of the violet, to the great satisfaction of those about the patient. The treatment can be continued without inconvenience for several weeks, and is only counter-indicated in gastric catarrh and nephritis.—*Medical Review, New York, November 3, 1894.*

TO HIDE THE TASTE OF CHLORAL.—Dr. E. Holland calls attention to the fact that the taste of chloral hydrate is effectively masked by lemonade. Two or three drachms of the syrup should be placed in a tumbler with about two ounces of water. If to this is added about two ounces or so of gaseous (bottled) lemonade, the mixture may be drunk at leisure, and the soporific action of the drug is in no way impaired.—*Medical Bulletin.*

DR. ALEXANDER TRAUTMAN is the successor to Dr. Matthew D. Field as examiner in lunacy at Bellevue Hospital. Doctor Trautman was some years resident in the city asylum on Ward's Island.

THE NEW YORK EPILEPTIC COLONY has an appropriation of \$14,000. It would not seem that much could be accomplished with this amount, in comparison with the work to be done in caring for many thousand epileptics. We have seen a hint in one of the medical journals of some proposed legislative change which would remove Dr. Frederick W. Peterson from his connection with the work. Such action would be a great misfortune, and we trust there is no possibility of it.

THE first woman to be admitted to the British Medico-Psychological Association is Dr. Eleonora L. Fleury, assistant to Dr. Conolly Norman at the Richmond Insane Hospital of Dublin.—*Medical Standard, February, '95.*

THE GUILD OF ST. CECILIA in London proposes to provide music in a hall which shall be connected by telephone with the wards of the hospitals, so that the healing power of music may be scientifically tested. We could wish to see this or a similar enterprise extended to the insane hospitals.

IN THE SWEDISH HOSPITAL FOR INSANE AT JOENKOPING, a fatal fire occurred on October 30, 1894, in which fifteen patients were burned to death.

AN EFFORT is being made in St. Louis to place the city asylum under State care. May it succeed! And while on the subject, we will say the same course ought to be pursued in New York.

THE SISTERS OF MERCY are to erect a hospital for the insane at Asbury, Iowa, to receive 210 patients, and cost \$75,000.—*Jour. Am. Med. Asso.*

THE HEALTH DEPARTMENT of St. Louis has opened the city asylum for the insane for clinical instruction, and the professors of several of the medical schools have held clinics there, calling out much interest in the students in this branch.

IN CHICAGO, Dr. D. R. Brower of Rush Medical College has for years taken his classes to the County Asylum, and a weekly clinic is held by Doctor Dewey at the Detention Hospital.

IN THE CENTRAL HOSPITAL FOR INSANE at Columbus, Ohio, Doctor Richardson, the superintendent, has offered every facility to the medical schools for clinical instruction, and one of the schools has made use of the opportunity. The initiative was taken by the institution, and we believe the outside profession will generally be met more than half-way by medical officers of asylums, in any endeavor to advance the clinical teaching of psychiatry.

DOCTOR NOYES, formerly of Detroit, but now of Providence, R. I., has presented Oak Grove, the private hospital for the treatment of nervous diseases, with \$5,000 worth of stock in the institution, to be devoted to building an entertainment hall, the only condition of the gift being that the new structure bear the name of "Noyes Hall."—*Exchange*.

MASSACHUSETTS HOSPITAL FOR INSANE.—The State Asylum at Waverly, Mass., has received a much needed remembrance under the will of the late Thomas E. Proctor of Boston. The managers of the General Hospital are to be made the custodians of \$100,000, that will be in trust until it shall, with accrued interest, reach the value of \$400,000. Then the amount may be used in the construction of buildings, at the new grounds of the McLean Asylum for the Insane, at the place named above, to be devoted to that branch of the General Hospital.—*Jour. Am. Med. Ass'n, January 19, 1895*.

DOCTOR MOTT, of Charing Cross Hospital; Doctor Savill, late of the Paddington Infirmary; and Doctor Andriezen, of the West Riding Asylum, are the candidates for pathologist to the London County asylums, says the *Medical Press and Circular*. The making of the appointment has finally been deferred, however, for the action of the incoming county council.

DR. W. A. POLGLASE of Detroit has been appointed superintendent of the new Michigan Home for the Feeble Minded and Epileptic, located at Lapeer, the commission taking effect March 1st. This institution is nearing completion, and will be ready for occupancy in a few months. The position had seven applicants, six from Michigan and one from Pennsylvania. Doctor Polglase is a homeopath, having graduated from the Chicago Homeopathic Medical College in 1878.

THE recent prescription for insomnia, originating with Dr. J. E. Huxley of Maidstone, Kent, England, of partial asphyxiation by burying the head in the bed clothing, after the manner of lower animals who cover up their noses when they sleep, may be worthy of trial, but we apprehend the nervous state in insomnia differs so much from that of animals, like dogs, chickens, etc., that the method may prove of little avail.

THE LABORATORY OF BACTERIOLOGY of the Philadelphia Polyclinic has decided to make microscopic examinations of diphtheritic membrane gratuitously, and report to physicians the bacteriological diagnosis. Sterilized swabs and blood serum tubes, together with instructions for procedure, furnished on application. The result of examination will be made known within twenty-four hours after receipt of tube.

LE PROGRÈS MÉDICAL, March 9, 1895, gives the estimated insane population of the Department of the Seine for the year 1895 at 12,245. Of these the Bicêtre has 1,120 patients, the Salpêtrière, 720. It has been determined to build an inebriate asylum for the department.

It would be a relief to have some supreme authority in orthoëpy hand down a decision as to the pronunciation of "g" before "y" in English. Present usage seems to give the first syllable in "gymnast" as if it were "jim." In "gynecology," on the other hand, many make it "guy," while in "gyrus," sometimes it is "gee."

GENIUS oftentimes seems to have about it a touch of madness, and insanity sometimes shows streaks of genius, but the relation between the two is accidental, not essential. If this has been said before, it will do no harm to say it again, as an antidote to the mixture of each to which Nordau and Lombroso and others are just now treating the civilized world.

A NEW STATUTE has been enacted in New York, says the *Medical Journal*, which provides that patients may be discharged from the insane hospitals by the boards of managers, but if these decline, a judge of a court of records may order the discharge, but not until the superintendent of the hospital has been heard and the patient's history read.

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